

# Undergraduate Bulletin 2000-2001

## 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 generally may expect to follow the graduation requirements set forth by that College in this Bulletin. Because the faculty of each College reserves the right to change graduation requirements, students should meet with their College adviser regularly to be certain that they are aware of any changes in graduation requirements that may apply to them.

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# General Information

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## History

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) which joined in 1991.

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.

## Role and Mission

The University of Nebraska-Lincoln is Nebraska's only land-grant university and its major comprehensive institution of higher education. With this two-fold role and mission, the University is responsible for offering a wide range of undergraduate, professional, and graduate programs including those leading to the doctorate. In addition to teaching, faculty members are involved actively in research and educational outreach programs.

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 energies, 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 needs of the people of Nebraska.

The University's teaching mission is distinguished by its comprehensiveness. The University of Nebraska-Lincoln offers instructional programs in a wide variety of disciplines and professions; provides a high degree of specialization at all levels within its educational programs; and bears a major responsibility in Nebraska for graduate education.

The quest for basic and applied knowledge is another essential part of the University's mission. The creation of new knowledge and its application are major parts of the institution's assigned

responsibility. The University of Nebraska-Lincoln is a principal center for academic research in Nebraska. The conduct of research and creative scholarship is the faculty's responsibility to the intellectual community, to a renewed civilization, and to future generations.

The University is committed to the belief that knowledge gained in the field and laboratory must be extended to the citizenry of the state. A large part of this mission is concentrated in agricultural research and extension. However, it is the general responsibility of the University to make all of its programs and resources available to the entire state through its public service efforts.

The quality education provided at the University of Nebraska-Lincoln is made possible by faculty members who serve in a variety of roles: as teachers of undergraduate students; as mentors of graduate students; as consultants to public institutions and agencies; and as agents of growth and enlightenment to citizens. Faculty members serve with excellence in these roles, providing a level of expertise that only direct, first-hand engagement in teaching, public service, research, and creative scholarship can provide.

## Accreditation

The University of Nebraska-Lincoln has been accredited by the North Central Association of Colleges and Secondary Schools 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 1999-2000 first (fall) semester enrollment at the University of Nebraska-Lincoln was 22,142 students—of whom 17,804 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 2000

May 15-June 2	Three-week Pre-session
May 15-July 7	Eight-week Session
June 5-July 7	First Five-week Session
July 10-August 10	Second Five-week Session
August 12	Commencement

### First Semester, Fall 2000

August 21	Classes Begin
September 4	Labor Day
October 16-17	Fall Break
November 22-26	Thanksgiving Vacation
December 9	Classes End
December 11-15	Final Exams
December 16	Commencement

### Second Semester, Spring 2001

January 8	Classes Begin
January 15	Martin Luther King Holiday
March 11-18	Spring Vacation
April 28	Classes End
April 30-May 4	Final Exams
May 5	Commencement

### Summer Sessions 2001

May 21-June 8	Three-week Pre-session
May 21-July 13	Eight-week Session
June 11-July 13	First Five-week Session
July 16-August 16	Second Five-week Session
August 18	Commencement

## Non-discrimination Policy

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.

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.

Any form of illegal discrimination and/or harassment will not 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 2001*

**Robert M. Allen**, Hastings (District 5)  
**Chuck Hassebrook**, Walthill (District 3)  
**Drew Miller**, Ph.D., Papillion (District 4)  
**Rosemary Skrupa**, J.D., Omaha (District 8)

*Term expires January 2003*

**Charles S. Wilson**, M.D., Lincoln (District 1)  
**Nancy L. O'Brien**, Ph.D., Waterloo (District 2)

*Term expires January 2005*

**Don S. Blank**, D.S., McCook (District 7)  
**Kent Schroeder**, Kearney (District 6)

### Student Members

**Joel Schafer**, University of Nebraska-Lincoln  
**Allison Cushman**, University of Nebraska Medical Center  
**William Marunda**, University of Nebraska at Omaha  
**Ryan Samuelson**, University of Nebraska at Kearney

## The University of Nebraska Administration

**L. Dennis Smith**, Ph.D., President  
**Lee B. Jones**, Ph.D., Executive Vice President and Provost, Dean of the Graduate College  
**Kim M. Robak**, J.D., Vice President for External Affairs and Corporation Secretary  
**David E. Lechner**, B.S.B.A., Vice President for Business and Finance  
**Richard R. Wood**, J.D., Vice President and General Counsel

## The University of Nebraska-Lincoln Administration

**James Moeser**, D.M.A., Chancellor  
**Richard C. Edwards**, Ph.D., Senior Vice Chancellor for Academic Affairs  
**James V. Griesen**, Ph.D., Vice Chancellor for Student Affairs  
**Scott Lewis**, Ph.D., Interim Vice Chancellor for Business and Finance  
**Irvin T. Omtvedt**, Ph.D., Vice Chancellor for Agriculture and Natural Resources and Vice Chancellor for Extended Education  
**Marsha R. Torr**, Ph.D., Vice Chancellor for Research  
**John A. Benson**, M.Arch., Director of Institutional Research and Planning  
**Linda R. Crump**, J.D., Assistant to the Chancellor for Equity Access and Diversity Programs  
**Herbert E. Howe, Jr.**, Ph.D., Associate to the Chancellor  
**Phyllis V. Larsen**, M.A., Director of Public Relations  
**Michelle Waite**, B.S., Assistant to the Chancellor for Community Relations

## The University of Nebraska-Lincoln Deans

**Elbert C. Dickey**, Ph.D., Interim Dean and Director of the Cooperative Extension Division  
**R. Wayne Drummond**, F.A.I.A., Dean of the College of Architecture  
**Richard W. Durst**, M.F.A., Dean of the Hixson-Lied College of Fine and Performing Arts  
**Donald M. Edwards**, Ph.D., Dean of the College of Agricultural Sciences and Natural Resources  
**Joan R. Giesecke**, D.P.A., Dean of University Libraries  
**James L. Hendrix**, Ph.D., Dean of the College of Engineering and Technology  
**Marjorie J. Kostelnik**, Ph.D., Dean of the College of Human Resources and Family Sciences  
**Merlin P. Lawson**, Ph.D., Dean of Graduate Studies and Dean of International Affairs  
**Cynthia H. Milligan**, J.D., Dean of the College of Business Administration  
**Darrell W. Nelson**, Ph.D., Dean and Director of the Agricultural Research Division  
**Will Norton, Jr.**, Ph.D., Dean of the College of Journalism and Mass Communications  
**James P. O'Hanlon**, Ed.D., Dean of the Teachers College  
**Linda R. Pratt**, Ph.D., Interim Dean of the College of Arts and Sciences  
**Nancy B. Rapoport**, J.D., Dean of the College of Law  
**Donald W. Swoboda**, Ph.D., Dean of the Division of Continuing Studies

## Deans—Omaha Programs

**David W. Hinton**, Ph.D., Dean of the College of Public Affairs and Community Service (UNO)  
**Stephen H. Leeper**, D.S., Dean of the College of Dentistry (UNMC)  
**Ada Lindsey**, Ph.D., Dean of the College of Nursing (UNMC)

<b>UNL Admission Requirements</b>	
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, <b>or</b> have an ACT composite score of 20 or higher, <b>or</b> 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 Technology, and the Hixson-Lied College of Fine and Performing Arts. Fine and Performing Arts requires auditions for admission to the School of Music. Architecture and Engineering and Technology 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 5.

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 four of the nine undergraduate colleges. The College of Business Administration and the College of Architecture and the College of Human Resources and Family Sciences will not count these courses towards meeting graduation requirements, not even as elective credit. Teachers College and the College of Agricultural Sciences and Natural resources will consider courses taken to remove deficiencies to satisfy graduation requirements. Additional information about University policies governing the removal of admissions deficiencies is available from the student's academic adviser.

## 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);
4. GED scores (if applicable);
5. A \$25 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 by contacting:

Office of Admissions  
University of Nebraska-Lincoln  
1410 Q Street  
PO Box 880417  
Lincoln, NE 68588-0417  
(402) 472-2023  
(800) 742-8800 (toll-free)  
nuhusker@unl.edu  
<http://www.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	June 30th
Spring Semester Application	December 15th
Summer Sessions Application	Five business days prior to the first day of classes of each session.

**New Student Enrollment.** All new, first-time UNL students participate in New Student Enrollment for advising, orientation, and registration. New Student Enrollment is a part of the Office of Admissions. 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 University's official welcome to all new students, are coordinated through New Student Enrollment. 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.

RASE is a reciprocity agreement between the University of Missouri-Columbia and the University of Nebraska-Lincoln that allows Missouri residents in designated programs to be charged in-state tuition at UNL and vice-versa. At UNL, the majors available under this program are actuarial science, architecture, community and regional planning, and construction management. This is the only reciprocity agreement in which the University of Nebraska-Lincoln is a participant. Additional information about RASE is available from the Offices of Admissions at UM-C and UNL.

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 5.

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 5.)

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 5.)

**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 one has attended since being dismissed, must be submitted by the admission deadlines. For more information about readmission to the University, see "Academic Standards" on page 11.

**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.**

**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 34 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 880417  
Lincoln, NE 68588-0417  
(402) 472-2023 or  
(800) 742-8800 (toll-free)

## 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 2000-2001 academic year. As of first (fall) semester 1999, the tuition rate for undergraduate resident students was \$87.25 per credit hour. The rate for undergraduate nonresident students is \$237.50 per credit hour. Both resident and nonresident students are also assessed the University Program and Facilities Fees of \$119.00 per semester for all students taking 1-6 credit hours; and \$255.00 per semes-

ter 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 are due and payable the first day of the semester.

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, see the *Schedule of Classes* for the appropriate semester.

## Scholarships and Financial Aid

The Office of Scholarships and Financial Aid administers a variety of federal and state 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 2000-2001 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 detailed information about any aspect of financial aid, see the *Scholarship and Financial Aid Guide*, a booklet available upon request from:

Office of Scholarships and Financial Aid  
University of Nebraska-Lincoln  
16 Canfield Administration Building  
PO Box 880411  
Lincoln, NE 68588-0411  
(402) 472-2030  
(800) 742-8800 (toll-free)  
<http://www.unl.edu/scholfa/cover.html>

## Scholarships

For first-time freshmen to be given full scholarship consideration, the UNL Office of Admissions must receive their completed Application for Admission, Scholarship Supplement and academic resume, by January 15, 2000. Some awards are offered through individual colleges and departments within the University, so it is important to contact these offices for more details about application procedures.

The Office of Scholarships and Financial Aid offers a free scholarship search service through the World Wide Web on the Internet. To access this service, students should go to location: <http://www.unl.edu/scholfa/cover.html> and choose "Scholarship Search Program" from the menu.

**National Merit Scholarship Program.** Any college-sponsored National Merit Finalist or National Achievement Program Finalist who attends UNL will receive at the minimum, a full-tuition scholarship for up to 135 credit hours or the completion of a bachelors degree, whichever comes first. If the student receives a Regent, David, or Distinguished Scholars Award to attend UNL, he or she will receive an additional renewable award of \$1,500 (for Regents) or \$1,000 (for David and Distinguished Scholars) during the academic year, in recognition of National Merit achievement.

**Regents Scholarships.** To apply for a Regents Scholarship, students must submit an *Application for Admission* (including appropriate support documents) to the University of Nebraska-Lincoln by January 15 of their senior year, graduate in the upper-one-fourth (25 percent) of their Nebraska high school class, take the ACT or SAT examination on or before the December testing dates of their senior year, and have their test scores sent to UNL directly from the ACT or SAT testing agency.

**David Scholarship Program.** These awards are made to students from Nebraska who are first-time freshmen. Selection is based upon admission test scores and superior academic performance while in high school. The value of each award is \$1,000 and may be renewable for up to three additional years.

**Distinguished Scholar Awards.** These awards are made to students from Nebraska and outside Nebraska who are first-time freshmen. Selection is based upon admission test scores and superior academic performance while in high school. The value of each award is \$1,000 and may be renewable for up to three additional years. (NOTE: If a student is awarded a Regents Scholarship, it will replace his/her Distinguished Scholar Award.)

**Canfield Scholarship.** Named in honor of former chancellor James Canfield, this prestigious award is given to qualified first-time freshmen from Nebraska with high academic achievement. A one year award, the Canfield is worth \$1,000.

**Chancellor's Leadership Scholarship.** This scholarship is awarded annually to outstanding high school seniors who are not only strong academically, but have demonstrated outstanding leadership while in high school. A one-year award, this scholarship is worth \$1,000.

**Pepsi Scholarship.** The Pepsi Scholarship is awarded annually to Nebraska high school seniors who have demonstrated outstanding volunteer service and leadership in working to improve their communities. A one-year award, this scholarship is worth \$1,000.

**Honors Program Textbook Scholarship.** This scholarship is awarded to first-time freshmen or transfer students in the University Honors Program. The scholarship pays for all required textbooks for up to four years or 135 credit hours, whichever occurs first, provided the student continues in the Honors Program (average value, \$620).

**Native American Heritage Scholarships for Freshmen and Undergraduate Transfer Students.** These scholarships are awarded to Nebraska residents with very strong tribal affiliation with one of the indigenous tribes associated with the geographic area of Nebraska in prehistoric, historic, or modern times. Scholarship consideration for freshmen will include high school rank in class, ACT or SAT composite test scores, financial need, and student essays. Scholarship consideration for transfer students will include transfer grade point average, course work completed at the recipient's previous institution (a minimum of 24 semester credit hours from another institution is required), financial need, and student essays. A separate application is required for both freshmen and transfer students. Awards vary from \$2,000 to the full direct cost of attendance. For freshmen, the scholarship is renewable for up to four academic years. For transfer students, the scholarship is renewable for up to three academic years or receipt of an undergraduate degree, whichever occurs first.

**Native American Community/Tribal College Transfer Scholarship.** These scholarships are awarded to associate degree recipients of one of sixteen Native American community/tribal colleges and universities. Scholarship consideration will include transfer grade point average and course work completed at the recipient's previous institution, the degree to which NU's core course admission requirements have been met, recommendations from officials at the recipient's previous institution, community involvement, honors and activities, and financial need. These scholarships are renewable and can provide full tuition until completion of a bachelors degree.

**Minority Scholarship Programs.** Several scholarships have been earmarked for academically talented minority students at UNL. The R. H. "Rick" Davis Scholarship was funded by the estate, family and friends of Nebraska alumnus Rick Davis, the University Foundation, and an appropriation from the Nebraska Legislature. The Davis Scholarship is awarded to outstanding minority students from Nebraska. The value of the award varies and can cover up to the full direct cost of attending UNL over four years. The Gupta Scholarship, provided by UNL alumnus Vin Gupta is designated for minority students studying engineering or the physical sciences. The Larson Scholarship provides up to \$1,000 per year to minority students who show outstanding academic and leadership ability. The Larson Scholarship is the result of a major gift from the estate of Richard H. Larson. To be considered for these programs, students must submit an *Application for Admission* (along with appropriate support documents) to the University of Nebraska-Lincoln by the January 15 deadline and follow the same application procedures and deadlines as described for other University scholarships. It is also required that the student complete and submit a *Free Application for Federal Student Aid* so that all available resources can be used to assist the recipients.

**Scholarships for New Nebraskans.** These awards are made to US citizens who are nonresidents of Nebraska and have exhibited above average admission test scores and superior academic achievement while in high school. Awards vary from a minimum \$1,200 up to the tuition differential.

**Transfer Student Scholarship.** These awards are based on superior academic performance at previous institutions. Awards range from \$500 to full tuition.

### Other Undergraduate Scholarships

The Office of Scholarships and Financial Aid and UNL's colleges administer more than 1600 additional scholarship funds. Consideration for these scholarships is based on submission of the *Application for Admission, Scholarship Supplement* and academic resume (completed by incoming freshmen) and the *Upperclass Scholarship Application* (completed by currently enrolled students). 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 and submit a *Free Application for Federal Student Aid* (FAFSA) to a federal processing center.

The FAFSA for the 2000-2001 academic year will be available in December 1999. The form is available in most high schools and from UNL's Office of Scholarships and Financial Aid.

To be considered for all types of need-based assistance, the student's FAFSA should be mailed to the processing center as soon as possible after January 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 2000-2001 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 annually in the *Scholarship and Financial Aid Guide* that is available through the Office of Scholarships and Financial Aid.

**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 Pell Grant

Unlike loans, the Federal Pell Grant does not have to be repaid. The Pell Grant is awarded by the federal government on the basis of financial need to undergraduate students seeking their first bachelors degree.

### Campus-Based Programs

Federal Supplemental Educational Opportunity Grants, Federal Work-Study, Federal Perkins Loans, and State Scholarship Award Program grants are federal 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 funds.

**Federal Supplemental Educational Opportunity Grant (SEOG).** The Federal Supplemental Educational Opportunity Grants are awarded to Pell-eligible students. Because an SEOG 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.

**State Scholarship Award Program.** Like all other grants, State Scholarship Award Program grants are not repaid. These grants are awarded to students who demonstrate significant financial need as defined by state statutes.

### Federal Direct Stafford Loan

The Federal Direct Stafford Loan is a low-interest loan made to the student by the federal government. If, based on the results of the student's FAFSA, the student qualifies for a Federal Direct Stafford Loan, the student will be sent a financial aid notification by the Office of Scholarships and Financial Aid. Once the notification is completed and returned, a partially completed promissory note will be sent to the student for signatures and references.

Loan repayment normally begins six months after a student graduates, leaves school, or drops below half-time enrollment status. The Direct Loan Servicer will contact the student regarding available repayment options.

### Federal Direct Unsubsidized Stafford Loan

This is a federal loan program whose terms and conditions are the same as Federal Direct Stafford Loans, such as loan limits, deferments and interest rates, however, students pay the interest during in-school and deferment periods. Interest accruing during those periods may be paid or capitalized as agreed by the borrower and servicer. The Federal Direct Unsubsidized Loan is not based on financial need. For additional information, please contact the Office of Scholarships and Financial Aid.

## **Federal Direct Parent Loans for Undergraduate Students (PLUS)**

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. PLUS borrowers do not have to demonstrate financial need, but must apply for federal aid by completing the FAFSA.

To apply for this loan, the student should contact the Office of Scholarships and Financial Aid (OSFA). The student's parents will be expected to begin repayment on these loans 60 days after the loan is fully disbursed.

## **Transfer Students**

Students transferring to the University from a Nebraska community college should check with the financial aid office at their community college to obtain information about the Regents Scholarship for Transfer Students.

Currently, transfer students applying for spring or summer need-based aid must submit financial aid transcripts (FATs) from all colleges, universities, professional, technical, or business schools they have attended—even if they did not receive aid from them. To be considered for all types of need-based assistance, the student must submit a FAFSA to the processing center and submit all admission application materials to UNL as early as possible. Forms are available from the Office of Scholarships and 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 2001-2002 Academic Year**

### **January 1, 2001**

Earliest date a FAFSA can be completed and signed. Forms completed prior to this date cannot be used to apply for federal student assistance funds for 2001-2002.

### **January 15, 2001**

High school seniors should submit the *Admissions Application, Scholarship Supplement* and a resume of activities by this date to be given full 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.

### **March 1, 2001**

Currently enrolled UNL students should complete the *Upperclass Scholarship Application* available on-line at <[www.unl.edu/scholfa/cover.html](http://www.unl.edu/scholfa/cover.html)>.

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.

## **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;

## **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.** Currently enrolled students who are interested in a particular course but do not wish to take it for credit may audit the course. If a student chooses to audit a course, he/she may attend all of the classes but may not take examinations. Courses involving extensive laboratory work are not open to auditors.

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. 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 ID card. There is a \$10.00 fee for issuance of the card. New undergraduate students as well as new international students are assessed this fee on their Consolidated Billing Statement. Evening students enrolling in the Division of Continuing Studies and all other students needing a student ID card will pay the \$10.00 card fee when they are issued their ID card.

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 at the University Bookstore; and it provides access to other services which most students use repeatedly during their enrollment at UNL. Lost cards are replaced for a \$10.00 fee. For more information or assistance contact the ID Card Office in the University Bookstore, Nebraska Union, lower level 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 which an instructor may require and should clear absences directly with the instructor.

Notice of illness, injury, or hospitalization may be provided by the University Health Center, a family physician, or the Vice-Chancellor of Students Affairs. In unusual circumstances, a temporary leave of absence may be obtained from the dean of the college or the Vice Chancellor for Student Affairs. However, neither absence nor notification of absence relieves students of meeting all course requirements or filing a withdrawal for the term. See the Grades of Incomplete section of this bulletin.

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

## Courses of Instruction

### Credit Hours

At the University of Nebraska-Lincoln, a semester credit hour represents the completion of a total of 1 or more hours of work per week for one semester (approximately 15 weeks), 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 and preparation time. A final examination may also be required. 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.

### Course Numbering System

In general, courses numbered 100-199 are for freshmen, 200-299 for sophomores, 300-399 for juniors, and 400-499 for seniors. Courses designated with both a 400 and an 800 number may usually be used for either senior or graduate credit. Courses at the 800 level without counterpart 400 or lower series numbers are identified in this bulletin with an asterisk (\*). 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.

Courses numbered less than 100 do not carry college-level degree credit.

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 in two or more academic subject areas and that credit can be earned in any one of the academic subject areas according to registration. Course numbers in brackets [ ] are offered through the Division of Continuing Studies. "F" indicates regular campus courses given at off-campus study centers and "X" indicates correspondence courses. The letter suffix "H" indicates an honors course. A suffix of "S" indicates a course offered by mediated instruction through the Division of Continuing Studies.

**NOTE:** 011 or 2011 or 1-01 = First Semester 2000-2001 academic year.

A Roman numeral(s) following the credit hours in the course description indicates the semester(s) the course is usually offered.

### Abbreviations Used in Course Descriptions

The University of Nebraska-Lincoln uses the following standard abbreviations for academic subject areas and program titles as part of course descriptions:

ACCT . . . . . Accounting  
ACTS . . . . . Actuarial Science  
ADVT . . . . . Advertising  
AERO . . . . . Aerospace

ALEC	. . . . .	Agricultural Leadership, Education and Communication
AECN	. . . . .	Agricultural Economics
AGEN	. . . . .	Agricultural Engineering
AGRI	. . . . .	Agricultural Sciences
AGRO	. . . . .	Agronomy
ASCI	. . . . .	Animal Science
ANTH	. . . . .	Anthropology
ARCH	. . . . .	Architecture
AHIS	. . . . .	Art History and Criticism
ARTP	. . . . .	Art Theory and Practice
ARTE	. . . . .	Art-Elements and Criticism
ARTS	. . . . .	Art-Special Topics
CERM	. . . . .	Art-Ceramics
DESN	. . . . .	Art-Basic Design
DRAW	. . . . .	Art-Drawing
GRPH	. . . . .	Art-Graphic Design and Illustration
PANT	. . . . .	Art-Painting
PHOT	. . . . .	Art-Photography
PRNT	. . . . .	Art-Print Making
SCLP	. . . . .	Art-Sculpture
WATC	. . . . .	Art-Watercolor
ASTR	. . . . .	Astronomy
ATHC	. . . . .	Athletic Coaching
ATHP	. . . . .	Athletic Practice Courses
ATHT	. . . . .	Athletic Training
AVIA	. . . . .	Aviation Institute
BIOC	. . . . .	Biological Chemistry
BIOS	. . . . .	Biological Sciences
BSEN	. . . . .	Biological Systems Engineering
BIOM	. . . . .	Biometry
BRDC	. . . . .	Broadcasting
BSAD	. . . . .	Business Administration
BLAW	. . . . .	Business Law
CHME	. . . . .	Chemical Engineering
CHEM	. . . . .	Chemistry
CHIN	. . . . .	Chinese
CIVE	. . . . .	Civil Engineering
CLAS	. . . . .	Classics
COMM	. . . . .	Communication Studies
CRPL	. . . . .	Community and Regional Planning
CSCE	. . . . .	Computer Science and Computer Engineering
CNST	. . . . .	Construction Management
CRIM	. . . . .	Criminal Justice
CURR	. . . . .	Curriculum and Instruction
CZEC	. . . . .	Czech
DANC	. . . . .	Dance
DENT	. . . . .	Dentistry
ADRS	. . . . .	Dentistry-Adult Restoration
DEPM	. . . . .	Dental Practice Management
ENDO	. . . . .	Dentistry-Endodontics
ORBI	. . . . .	Dentistry-Oral Biology
ORSU	. . . . .	Dentistry-Oral Surgery
ORTH	. . . . .	Dentistry-Orthodontics
PEDI	. . . . .	Dentistry-Pediatric
PERO	. . . . .	Dentistry-Periodontics
DHYG	. . . . .	Dental Hygiene
ECON	. . . . .	Economics
EDUC	. . . . .	Education
EDAD	. . . . .	Educational Administration
EDPS	. . . . .	Educational Psychology
ELEC	. . . . .	Electrical Engineering
ENGM	. . . . .	Engineering Mechanics
ENGR	. . . . .	Engineering
ENGL	. . . . .	English
ENTO	. . . . .	Entomology
ENTR	. . . . .	Entrepreneurship
ENVE	. . . . .	Environmental Engineering
ENVR	. . . . .	Environmental Studies
ETHN	. . . . .	Ethnic Studies
EURO	. . . . .	European Studies
FACS	. . . . .	Family and Consumer Sciences
FILM	. . . . .	Film Studies Program
FINA	. . . . .	Finance
FDST	. . . . .	Food Science and Technology
FREN	. . . . .	French

GEOG	Geography
GEOL	Geology
GEOS	Geosciences
GERM	German
GERO	Gerontology
GRBA	Graduate-Business Administration
GRDC	Graduate College
GPSP	Great Plains Studies Program
GREK	Greek
HEBR	Hebrew
HHPG	Health and Human Performance
HHPT	Health and Human Performance Theory
COMB	Recreation-Combatives
FITN	Recreation-Fitness
INDV	Recreation-Individual & Dual Activity
MARK	Recreation-Marksmanship
ODED	Recreation-Outdoor Education
RACS	Recreation-Racquet Sports
HLTH	Health Education
HIST	History
HORT	Horticulture
HRFS	Human Resources and Family Sciences
HUMN	Humanities
IMSE	Industrial and Management Systems Engineering
IDES	Interior Design
INTS	International Studies
ITAL	Italian
JAPN	Japanese
JOUR	Journalism-Core courses
JGEN	Journalism-General courses
JGRD	Journalism-Graduate
JUDS	Judaic Studies
LAKO	Lakota-Sioux
LAMS	Latin American Studies
LATN	Latin
LAW	Law
LIBR	Library
MNGT	Management
MIST	Management Information Systems and Technology
MRKT	Marketing
MATH	Mathematics
MECH	Mechanical Engineering
MSYM	Mechanized Systems Management
METL	Metallurgical Engineering
METR	Meteorology and Climatology
MLSC	Military Science
MHEB	Modern Hebrew
MODL	Modern Language
MUSS	Museum Studies
MUSC	Music
MUAP	Music-Applied
MUCP	Music-Composition
MUED	Music Education
MUEN	Music-Ensemble
MUNM	Music for Non-Majors
MUOP	Music-Opera
MUSR	Music-Student Recitals
NRES	Natural Resources
NAVS	Naval Science
NEWS	News and Editorial
NURS	Nursing
NMED	Nursing Medicine
NUTR	Nutritional Science and Dietetics
PHIL	Philosophy
PHYS	Physics
PLPT	Plant Pathology
POLS	Political Science
PORT	Portuguese
PSYC	Psychology
RNGE	Rangeland Ecosystems
RECR	Recreational Theory
RELG	Religious Studies Program
RUSS	Russian

SCIE	Sciences
SOCW	Social Work
SOCI	Sociology
SOCS	Social Science
SOIL	Soil Science
SPAN	Spanish
SPED	Special Education
SECD	Special Education and Communication Disorders
SPCW	Special Waiver (International Affairs)
SLPA	Speech-Language Pathology and Audiology
STAT	Statistics
TXCD	Textiles, Clothing and Design
THEA	Theatre Arts
UFND	University Foundations Program
UHON	University Honors Program
USTD	University Studies
VBMS	Veterinary and Biomedical Sciences
VAED	Vocational and Adult Education
WATS	Water Science
WMNS	Womens Studies Program

Other abbreviations and symbols commonly used in course descriptions include:

act	activity
anlys	analysis
arr	arranged
C	denotes: Division of Continuing Studies course
coreq	corequisite
cr	credit or credit hours
cr arr	credit arranged
cum	cumulative GPA
DCS	Division of Continuing Studies
ES	Essential Studies Program
elem	elementary
F	Field
fld	field
fund	fundamentals
GPA	Grade Point Average
grad	graduate
H	Honors
hr	hour
inc	incomplete
ind	independent
intro	introduction
IS	Integrative Studies Program
L	laboratory
lab	laboratory
lec	lecture
max	maximum
NR	no report
P	pass
P/N	pass/no pass
Prereq or preq	prerequisite
princ	principles
PSI	Personal System of Instruction
quiz	quiz
rct	recitation
rsh	research
S	Mediated Instruction
sec	secondary
smnr	seminar
stu	studio
TBA	to be arranged
tch	teach or teacher
tech	technology
W	withdrawn
x	correspondence course
/	and/or
&	and
+	and
<	greater than
>	less than

## Course Prerequisites

Course prerequisites indicate the level of preparation a student needs 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. See the Courses of Instruction section for each undergraduate college in this bulletin for official listing of course prerequisites.

The use of the word "parallel" 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), B+ (3.5), B (3.0), C+ (2.5), C (2.0), D+ (1.5), D (1.0), 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 appear on grade reports.
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

Students will be recognized only for the highest award for which they qualify.

**High Scholarship.** Students must have a cumulative grade point average (GPA) of 3.6 or higher and meet the following specific requirements to be recognized for high scholarship.

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 Teachers College 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 GPA and residency requirements of 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 Scholar Award.** 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 Teachers College

may be exceptions.) Students graduating in December may take only those hours needed for graduation.

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

All grades are averaged in figuring cumulative GPA. Students repeating a class to remove 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. 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, 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 (P/N) 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*.

### Removal of 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 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 D/F removal process.

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

### Automatic Removal of D & F 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 D+, D, or F. The current semester Grade Report reflects the automatic D & F removal in the To-Date line with the following exceptions.

### Exceptions to Automatic D & F Grade Factors Removal Processing

Independent study courses, special topics courses, variable credit hour courses, and correspondence courses will not be processed automatically. These courses will be identified to Registration and Records to check the D & F status manually. Any of these courses that qualify for D & F 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 a D & F Removal Form 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 two weeks after the mailing of grade reports).
4. Cross-listed courses (i.e., FINA/ECON 365).

Requests for D & F removal for these exception-type situations are available at, and must be submitted to Registration and Records, 107 Canfield Administration Building, within the seven-day revision period following the issuance of grade reports and prior to the final posting of grades (grade census date) to meet the deadline for a Grade Notification Letter. D & F 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. Correspondence courses are 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.

# Comprehensive Education Program

## 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 351.

## 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 14 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 23 of this bulletin and are identified in course descriptions by the IS symbol.

## Co-Curricular Experience

At the center of the university experience are the classes students take in pursuit of their undergraduate degrees. However, a student who only takes courses—even if he or she works hard and learns a great deal—has missed a substantial part of what it means to be a university student. Any experienced student or graduate will say that a vital aspect of his or her education involved experience outside the classroom which contributed to his or her growth as an active, knowledgeable, self-aware, open-minded, and healthy individual. A university such as UNL provides students with a wealth of opportunities to grow and develop.

The co-curricular component involves opportunities for growth in these areas: personal development, health and wellness, intellectual development, cultural understanding, arts appreciation, career development, values and ethics, and social responsibility.

All entering students will receive information and assistance that will enable them to create a plan to reach established goals in each of these areas and to record their achievements for recognition.

## 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 & Natural Resources  
 R = Architecture  
 S = Arts and Science  
 B = Business  
 E = Engineering and Technology  
 P = Fine and Performing Arts  
 H = Human Resources & Family Sciences  
 J = Journalism & 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		B			H	T			
	BRDC 461 Instructional Television				B		H	J			
•	COMM 109 Fundamentals of Human Communication	A	R		B	E		H	T	L	
•	COMM 109H Honors: Fundamentals of Human Communication	A	R		B	E		H	T	L	
	COMM 209 Public Speaking	A	R		B	E		H	T	L	
•	COMM 209H Honors: Public Speaking	A	R		B	E		H	T	L	
•	COMM 212 Debate	A			B	E		H	T		
•	COMM 311 Business & Professional Communication	A	R		B	E		H	T		
	CURR 120 Basic Business Communication (former VAED 120)	A			B			H	T	L	
•	ENGL 101 (ABD) Composition & Literature I	A	R	S	B		P	H	J	T	L
•	ENGL 102 (ABD) Composition & Literature II	A	R	S	B		P	H	J	T	L

IS	B. Math and Statistics (3 hours)	A	R	S	B	E	P	H	J	T	L
•	BIOM 201 Intro to Biometry	A	R	S			P	H		T	
	CSCE 235 Intro to Discrete Structures	A		S	B	E	P	H	J	T	
	ECON 215 Statistics	A	R		B			H	J	T	
	EDPS 459 Statistical Methods	A			B			H	J	T	
	HHPT 330 Measurement & Evaluation in Exercise Science & Physical Education				B					T	
	IMSE 321 Applied Engineering Probability & Statistics	A	R		B	E		H		T	
	MATH 104 Calculus for Managerial & Social Sciences	A		S	B		P	H	J	T	
•	MATH 106 Analytic Geometry & Calculus I	A	R	S	B	E	P	H	J	T	
•	MATH 106H Honors: Calculus I	A	R	S	B	E	P	H	J	T	
•	MATH 107 Analytic Geometry & Calculus II	A	R	S	B	E	P	H	J	T	
•	MATH 107H Honors: Calculus II	A	R	S	B	E	P	H	J	T	
	MATH 189H University Honors Seminar			S	B	P					

• MATH 203 Contemporary Mathematics	A R S B P H J T L	• COMM 354 Health Communication	A R S B P H J T
• MATH 208 Analytic Geometry & Calculus III	A R S B E P H J T	• COMM 370 Family Communication	R S B E P H J T
• MATH 208H Honors: Analytic Geometry & Calculus III	A R S B E P H J T	• COMM 371 Communication in Negotiation & Conflict Resolution	R S B E P H J T
• MATH 394 Topics in Contemporary Mathematics	A R S B P H	COMM 375 Theories of Persuasion	R S B E P H J T
• MNGT 245 Elementary Quantitative Methods	B P H J T	• COMM 380 Gender & Communication	R S B E P H J T
• PHIL 211 Intro to Modern Logic	A S B E P H J T	• CURR 330 Multicultural Education (ETHN 330)	R S B P H T L
• STAT 180 Elements of Statistics	A R S E P H J T	CURR 450 American Cultural Perspectives through Popular Music & Guitar (MUED/MUNM 450)	A R B P H J T
TXCD 313 Theory & Practices in Merchandising	B P H	ECON 210 Intro to Economics	A R S B E P H J T
		ECON 211 Principles of Macroeconomics	A R S B E P H J T
		ECON 212 Principles of Microeconomics	A R S B E P H J T
IS <b>C. Human Behavior, Culture, and Social Organizations (6 hours)</b>	<b>A R S B E P H J T L</b>	• EDPS 189H Honors: How to Learn & Develop Talent	A R B E P T
ADVT 250 Intro to Public Relations (BRDC/NEWS 250)	R B H J T	EDPS 209 Strategies for Academic Success	B P T
ADVT 281 Intro to Advertising	R B H J T	EDUC 131 Foundations of Modern Education	R B P H T
AECN 141 Intro to Economics of Agriculture	A R S B E P H T	• ENGL 220 Intro to Linguistic Principles	A R S B E P H J T
AECN 265 Resource & Environmental Economics I (former AECN 261)	R B P H T	• ENGL 322B Linguistics & Society	A R S B E P T
AECN 276 Rural Sociology (SOCI 241)	R S B E P H T	• ETHN 189H University Honors Seminar	A R S B E P H J T
• AECN 346 World Food Economics	R S B E P H T	• ETHN 211 Intercultural Communication (COMM 211)	A R S B E P H J T
AECN 376 Rural Community Economics	R S B E P H T	• ETHN 212 Intro to Cultural Anthropology (ANTH 212)	A R S B E P H J T
AECN 442 Agricultural Policy	R B E H T	• ETHN 217 Nationality & Race Relations (SOCI 217)	A R S B E P H J T
• AGRI 292 Intro to Global Agricultural & Natural Resources Issues	R S B E P H T	ETHN 218 Chicanos in American Society (SOCI 218)	A R S B E P H J T
• ALEC 189H University Honors Seminar	A B P	ETHN 238 Blacks & the American Political System (POLS 238)	A R S B E P H J T
• ALEC 202 Leadership Development in Small Groups & Teams	R B E H T	ETHN 310 Psychology of Immigration (PSYC 310)	A R S B E P H T
• ALEC 302 Dynamics of Effective Leadership in Organizations	R B E H T	• ETHN 330 Multicultural Education (CURR 330)	R S B P H T L
ANTH 107 Individual & Society	A R S B E P H J T	ETHN 351 People & Cultures of Native North America (ANTH 351)	A R S B E P H J T
ANTH 110 Intro to Anthropology	A R S B E P H J T	ETHN 352 Intro to Plains Ethnology (ANTH 352)	A R S B E P H J T
ANTH 130 Anthropology of the Great Plains	A R S B E P H J T	• ETHN 448 Family Diversity (SOCI 448)	A R S B E P H J T
• ANTH 212 Intro to Cultural Anthropology (ETHN 212)	A R S B E P H J T	FACS 120 Individuals & Families as Consumers	A R B H T
• ANTH 252 Archaeology of World Civilizations (CLAS 252)	A R S B E H T	FACS 120H Honors: Individuals & Families as Consumers	A R B H T
ANTH 261 Conflict & Conflict Resolution (POLS/PSYC/SOCI 261)	A R S B E P H J T	FACS 160 Human Development & the Family	A R S B P H T
ANTH 351 People & Cultures of Native North America (ETHN 351)	A R S B E P H J T	FACS 160H Honors: Human Development & the Family	A R S B P H T
ANTH 352 Intro to Plains Ethnology (ETHN 352)	A R S B E P H J T	FACS 171 Infancy	A R S B P H T
ANTH 353 Anthropology of War	A R S B E P H J T	• FACS 333 Families in the Economy	A R B H T
ANTH 362 People & Cultures of Africa	A R S B E P H J T	• FACS 381 Family Intervention with Fieldwork	A R B H T
ANTH 366 People & Cultures of East Asia	A R S B E P H J T	FACS 481 Family Violence	A R B H T
• BIOS 203 Bioethics	A R S B E P H J T	• FACS 488 Child & Family Policy	A R B H T
BRDC 226 Intro to Broadcasting (COMM 226)	R S B P H J T	• GEOG 120 Introductory Economic Geography	A R S B E P H J T
BRDC 250 Intro to Public Relations (ADVT/NEWS 250)	R B H J T	• GEOG 140 Introductory Human Geography	A R S B E P H J T L
BRDC 465 International Broadcasting	R B P H J T	• GEOG 181 Quality of the Environment	A R S B E P H J T
• CLAS 252 Archaeology of World Civilizations (ANTH 252)	A R S B E H J T	• GEOG 242 The Geographical Background to World Affairs	A R S B E P H J T
• COMM 130 Communication Strategies in Society	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
• COMM 189H University Honors Seminar	A R S B E P T	GEOG 272 Geography of World Regions	A R S B E P H J T L
COMM 200 Intro to Communication Studies	R S B E P H J T	• GEOG 283 Space, the Environment & You	A R S B E P H J T
COMM 210 Small Group Problem Solving	R S B E P H J T	• GEOG 361 Urban Geography	A R S B E P H J T
• COMM 211 Intercultural Communication (ETHN 211)	A R S B E P H J T	GEOG 372 European Landscapes & Cultures	A R S B E P H J T
COMM 226 Intro to Broadcasting (BRDC 226)	R S B P H J T	GEOG 374 Geography of Russia	A R S B E P H J T
• COMM 280 Communication & Popular Culture	R S B E P H J T	• GEOG 375 Geography of Asia	A R S B E P H J T
COMM 283 Interpersonal Communication	R S B E P H J T	• GEOG 378 Geography of Latin America	A R S B E P H J T
COMM 300 Nonverbal Communication	R S B E P H J T	• HHPT 279 Psychosocial Aspects of Physical Activity & Sport	R S B E P H T
COMM 334 Polls, Politics & Public Opinion (POLS 334)	A R S B P H J T	HIST 343 American Urban & Social History I	A R S B E P H J T

HIST 344 American Urban & Social History II	A	R	S	B	E	P	H	J	T
HIST 346 North American Environmental History	A	R	S	B	E	P		J	T
• HLTH 100 Healthy Lifestyles			B				T		
• JGEN 123 The Media Today		R	S	B	E	P	H	J	T
• JGEN 189H University Honors Seminar			B			J			
• JOUR 485 History of Mass Media		R	B			H	J	T	
• JOUR 486 Communications Law		R	B			H	J	T	
• JOUR 487 Mass Media & Society		R	B			H	J	T	
• MNGT 189H University Honors Seminar			B	P					
MNGT 360 Managing Behavior in Organizations	A	R	S	B	E	P	H		T
• MNGT 360H Honors: Managing Behavior in Organizations	A	R	S	B	E	P	H		T
• MNGT 465 Organization Theory & Behavior	A	R	S	B	E	P	H		T
MRKT 341 Marketing		R	B			H	T		
MRKT 341H Honors: Marketing		R	B			H	T		
• MRKT 346 Marketing Channels Management		R	B			H	T		
MRKT 443 Consumer Behavior: Marketing Aspects		R	B			H	T		
• MRKT 458 Sales Management		R	B			H	T		
MUED 450 American Cultural Perspectives through Popular Music & Guitar (CURR/ MUNM 450)	A	R	B	P	H	J	T		
• MUNM 450 American Cultural Perspectives through Popular Music & Guitar (CURR/ MUED 450)	A	R	B	P	H	J	T		
NEWS 250 Intro to Public Relations (ADVT/ BRDC 250)		R	B			H	J	T	
• NRES 323 Natural Resources Policy		R	S	B	P	H		T	
• NUTR 253 Cultural Aspects of Food & Nutrition			S	B	P				
• PHIL 216 Intro to Psychology & Philosophy (PSYC 216)	A	R	S	B	E	P	H	J	T
POLS 100 Power & Politics in America	A	R	S	B	E	P	H	J	L
POLS 104 Comparative Politics	A	R	S	B	E	P	H	J	T
POLS 160 International Relations	A	R	S	B	E	P	H	J	L
• POLS 189H University Honors Seminar	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
POLS 230 Elections, Political Parties & Special Interests	A	R	S	B	E	P	H	J	T
• POLS 232 Public Issues in America	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
POLS 260 Problems in International Relations	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
POLS 271 West European Politics	A	R	S	B	E	P	H	J	T
• POLS 272 Non-Western Politics	A	R	S	B	E	P	H	J	T
• POLS 274 Developmental Politics of East Asia (former POLS 375)	A	R	S	B	E	P	H	J	T
POLS 277 Latin American Politics (former POLS 377)	A	R	S	B	E	P	H	J	T
• POLS 325 Legislative Processes	A	R	S	B	E	P	H	J	T
POLS 334 Polls, Politics & Public Opinion (COMM 334)	A	R	S	B		P	H	J	T
POLS 345 Courts, Judges, and Lawyers	A	R	S	B	E	P	H	J	T
• POLS 371 Politics of the European Union	A	R	S	B	E	P	H	J	T
POLS 372 Russian Politics	A	R	S	B		P	H	J	T
POLS 275 Post-Communist Politics	A	R	S	B	E	P	H	J	T
PSYC 181 Intro to Psychology	A	R	S	B	E	P	H	J	T
PSYC 181H Honors: Intro to Psychology	A	R	S	B	E	P	H	J	T
• PSYC 216 Intro to Psychology & Philosophy (PHIL 216)	A	R	S	B	E	P	H	J	T
PSYC 261 Conflict & Conflict Resolution (ANTH/POLS/SOCI 261)	A	R	S	B	E	P	H	J	T
• PSYC 263 Intro to Cognitive Processes	A	R	S	B		P	H	J	T
• PSYC 268 Learning & Motivation	A	R	S	B		P	H		
PSYC 270 Evolution, Behavior, and Society	A	R	S	B		P	H		
PSYC 287 Psychology of Personality	A	R	S	B	E	P	H	J	T
• PSYC 288 Psychology of Social Behavior	A	R	S	B	E	P	H	J	T
PSYC 289 Developmental Psychology	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
• SOCI 101 Intro to Sociology	A	R	S	B	E	P	H	J	T
• SOCI 182 Alpha Learning Community Freshman Seminar	A	R	S	B		H			
• SOCI 183 Alpha Learning Community Freshman Seminar	A	R	S	B		H			
• SOCI 189H University Honors Seminar	A	S	B	E	P	H			
• 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 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			
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 Contact	A	R	S	B	E	P	H	J	T
• SPED 303 Behavior Management			B						
• TXCD 123 Clothing & Human Behavior	R	S	B			H		T	
TXCD 123H Honors: Clothing & Human Behavior	R	S	B			H		T	
• TXCD 410 Socio-psychological Aspects of Clothing	R	B				H		T	
• WMNS 189H University Honors Seminar	A	R	S	B	E	P		J	T
<b>IS D. Science and Technology (3 hours)</b>	<b>A</b>	<b>R</b>	<b>S</b>	<b>B</b>	<b>E</b>	<b>P</b>	<b>H</b>	<b>J</b>	<b>T</b>
AGEN 112 Engineering in Agricultural & Biological Systems (BSEN 112)	A	S	B	E	P	H		T	L
AGEN 118 Fundamentals of Design for Agricultural & Biological Systems Engineering (BSEN 118)	A	S	B	E	P	H		T	L
• AGRI 103 Food, Agriculture & Natural Resource Systems (NRES 103)	A		B	E	H		T	L	
AGRI 271 An Intro to Computer Applications in Agriculture	A		B	E	H		T	L	
AGRO 131 Plant Science	A	R	S	B	E	P	H		L
AGRO 153 Soil Resources (SOIL 153)	A	R	S	B	E	P	H		L
• ANTH 242 Intro to Physical Anthropology	A	S	B	E	P	H	J	T	L
ASCI 100 Animal Agriculture	A		B						
• ASCI 210 Animal Products	A		B						
ASCI 240 Anatomy & Physiology of Domestic Animals	A	R	B	E	H		T	L	
ASCI 250 Animal Management	A		B						
• ASCI 270 Animal Welfare	A		B						
• ASCI 310 Fresh Meats	A		B						
ASCI 320 Animal Nutrition & Feeding	A		B	E	H		T	L	
ASCI 330 Animal Breeding	A	R	B	E	H		T	L	
ASCI 340 Animal Adaptation, Growth & Lactation	A		B	E	H		T	L	

ASCI 351 Biology & Management of Companion Animals	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	B	E	H	T	L	
ASTR 103 Descriptive Astronomy	A	S	B	E	P	H	J
ASTR 103H Honors: Descriptive Astronomy	A	S	B	E	P	H	J
ASTR 113 Selected Topics in Astronomy	A	S	B	E	P	H	J
ASTR 204 Introductory Astronomy & Astrophysics	A	S	B	E	P	H	J
BIOC 221 Intro to Biochemistry	A	B	E	H	J	T	L
BIOS 101 General Biology	A	R	S	B	E	P	H
BIOS 101L General Biology Lab	A	R	S	B	E	P	H
• BIOS 108 Insects, Sciences & Society (ENTO 108)	A	B	E	H		T	L
• BIOS 109 General Botany	A	R	S	B	E	P	H
BIOS 112 Intro to Zoology	A	R	S	B	E	P	H
BIOS 115 Insect Biology (ENTO 115)	A	R	S	B	E	P	H
BIOS 116 Insect Identification (ENTO 116)	A	S	B	E	P	H	T
BIOS 213 Human Physiology	A	R	S	B	E	P	H
BIOS 213L Human Physiology Lab	A	R	S	B	P		J
• BIOS 230 Ecology of the Great Plains	A	S	B	E	P	H	J
BIOS 301 General Genetics (former BIOS 241)	A	R	S	B	E	P	H
• BIOS 369 Introductory Plant Pathology (PLPT 369)	A	R	S	B	E	P	H
BIOS 373 Biopsychology (PSYC 373)	A	R	S	B	E	P	H
BIOS 442 Endocrinology (ASCI 442)	A	S	B	E	H		T
BSEN 112 Engineering in Agricultural & Biological Systems (AGEN 112)	A	S	B	E	P	H	T
BSEN 118 Fundamentals of Design for Agricultural & Biological Systems Engineering (AGEN 118)	A	S	B	E	P	H	T
BSEN 326 Intro to Environmental Engineering (CIVE 326)	A	B	E	H		T	L
• CHEM 105 Chemistry & The Citizen I		S	B	E	P	H	J
CHEM 106 Chemistry & The Citizen II		S	B	E	P	H	J
• CHEM 109 General Chemistry I	A	R	S	B	E	P	H
CHEM 110 General Chemistry II	A	R	S	B	E	P	H
• CHEM 111 Chemistry for Engineering & Technology	A	R	S	B	E	P	H
• CHEM 113 Fundamental Chemistry I	A	R	S	B	E	P	H
CHEM 114 Fundamental Chemistry II	A	R	S	B	E	P	H
CHEM 131 The Science of Food (FDST/NUTR 131)	A	S	B	E	P	H	J
CIVE 112 Intro to Civil Engineering	A	B	E	H		T	L
CIVE 310 Fluid Mechanics (MECH 310)	A	B	E	H		T	L
CIVE 310H Honors: Fluid Mechanics	A	B	E	P	H		T
CIVE 326 Intro to Environmental Engineering (BSEN 326)	A	B	E	H		T	L
CIVE 401 Civil Engineering Systems	A	B	E	H		T	L
CIVE 421 Hazardous Waste Management	A	B	E	H		T	L
CSCE 101 Fundamentals of Computing	A	R	S	B			
CSCE 101L Fundamentals of Computing Lab	A	R	S	B			
CSCE 155 Intro to Computer Science I	A	S	B	E	P	H	J
CSCE 155H Honors: Intro to Computer Science I	A	S	B	E	P	H	J
CSCE 156 Intro to Computer Science II	A	S	B	E	P	H	J
CSCE 156H Honors: Intro to Computer Science II	A	S	B	P	H	J	T
• CSCE 230 Computer Organization	A	S	B	E	P	H	J
• CSCE 230H Honors: Computer Organization	A	S	B	E	P	H	J
CSCE 452 Database Organization & Management (MIST, MNGT 452)	A	B	E	H		T	L
CURR 201 Electricity/Electronics (former VAED 201)		B		H	T	L	
• CURR 246 Modern Industries (former VAED 246)				B	E	H	T
ELEC 121 Intro to Electrical Engineering I	A	S	B	E	P	H	T
ELEC 122 Intro to Electrical Engineering II	A	S	B	E	P	H	T
ELEC 211 Elements of Electrical Engineering I	A	S	B	E	P	H	T
ELEC 213 Electrical Circuits I	A	B	E	H		T	
ELEC 214 Electrical Circuits II	A	B	E	H		T	
ENGM 220 Statics	A	R	S	B	E	P	H
ENGM 223 Engineering Statics	A	R	S	B	E	P	H
ENGM 324 Strength of Materials	A	R	B	E	H		T
ENGM 325 Mechanics of Elastic Bodies	A	R	B	E	H		T
ENGM 373 Engineering Dynamics	A	B	E	H		T	
ENGM 380 Elements of Computer-Aided Design	A	B	E	H		T	
ENGM 480 Numerical Methods in Engineering Analysis	A	B	E	H		T	
• ENTO 108 Insects, Sciences & Society (BIOS 108)	A	B	E	H		T	
ENTO 115 Insect Biology (BIOS 115)	A	S	B	E	P	H	T
ENTO 116 Insect Identification (BIOS 116)	A	S	B	E	P	H	T
• FDST 101 Human Food Resources	A	B	E	H		T	
FDST 131 The Science of Food (CHEM/NUTR 131)	A	S	B	E	P	H	J
GEOG 150 Physical Geography	A	R	S	B	E	P	H
GEOG 152 Physical Geography Lab	A	R	S	B	E	P	H
• GEOG 155 Elements of Physical Geography	A	R	S	B	E	P	H
GEOG 252 Meteorology (METR 252)	A	S	B	E	P	H	J
GEOG 281 Hydrogeography (NRES/WATS 281)	A	B	E	H		T	
GEOG 353 Applied Climatology (METR 353)		S	B				
GEOL 100 Intro to Geology	A	S	B	E	P	H	J
GEOL 101 Physical Geology	A	R	S	B	E	P	H
GEOL 103 Historical Geology	A	S	B	E	P	H	J
GEOL 103H Honors: Historical Geology	A	S	B	E	P	H	J
GEOL 105 Life of the Past	A	S	B	E	P	H	J
GEOL 106 Environmental Geology	A	S	B	E	P	H	J
GEOL 109 Oceanography	A	S	B	E	P	H	J
• GEOL 305 Geology & Resources of the Middle East	A	S	B	P	H	J	T
HHPT 207 Human Anatomy	A	R	B	E	H		T
HORT 130 Intro to Horticulture	A	R	B	E	H		T
HORT 325 Greenhouse Practices & Management	A	R	B	E	H		T
HORT 327 Intro to the Science of Turf Management	A	R	B	E	H		T
IMSE 150 Intro to Computers	A	B	E	H		T	L
IMSE 201 Technology & Society	A	B	E	H		T	L
IMSE 206 Engineering Economy I	A	B	E	H		T	L
IMSE 328 Intro to Modeling	A	B	E	H		T	L
IMSE 406 Engineering Economy II	A	B	E	H		T	L
IMSE 421 Industrial Quality Control	A	B	E	H		T	L
IMSE 422 Applied Statistics for Industry	A	B	E	H		T	L
IMSE 428 Principles of Operations Research	A	B	E	H		T	L
IMSE 429 Applied Linear Models in Operations Research	A	B	E	H		T	L
IMSE 430 Stochastic & Nonlinear Models in Operations Research	A	B	E	H		T	L
MECH 200 Thermodynamics I	A	B	E	H		T	L
MECH 300 Thermodynamics II	A	B	E	H		T	L
MECH 310 Fluid Mechanics (CIVE 310)	A	B	E	H		T	L
MECH 342 Kinematics & Dynamics of Machinery	A	B	E	H		T	L
MECH 350 Intro to Dynamics & Control of Engineering Systems	A	R	B	E	H		T
MECH 420 Heat Transfer	A	B	E	H		T	L
METL 360 Elements of Materials Science	A	R	B	E	H		T

• METR 200 Weather & Climate	A	R	S	B	E	P	H	J	T	L
METR 252 Meteorology (GEOG 252)	A	R	S	B	E	P	H	J	T	L
• METR 351 Basic & Applied Climatology		S	B							
METR 353 Applied Climatology (GEOG 353)		S	B							
MIST 452 Database Organization & Management (CSCE/MNGT 452)	A		B	E		H		T	L	
MIST 454 Information Systems Analysis & Design (MNGT 454)	A		B	E		H		T	L	
MIST 457 Business Data Communications (MNGT 457)	A		B	E		H		T	L	
MNGT 452 Database Organization & Management (CSCE/MIST 452)	A		B	E		H		T	L	
MNGT 454 Information Systems Analysis & Design (MIST 454)	A		B	E		H		T	L	
MNGT 457 Business Data Communications (MIST 457)	A		B	E		H		T	L	
MRKT 345 Market Research	A		B	E		H		T	L	
MSYM 109 Physical Principles in Agriculture	A	S	B	E	P	H		T	L	
• NRES 103 Food, Agriculture & Natural Resource Systems (AGRI 103)	A		B	E		H		T	L	
NRES 211 Wildlife Biology & Conservation (former FFWL 211)	A	S	B	E	P	H		T	L	
NRES 281 Hydrogeography (GEOG/WATS 281)	A		B	E		H		T	L	
NUTR 131 The Science of Food (CHEM/FDST 131)	A	S	B	E	P	H	J	T	L	
• NUTR 151 Intro to Nutrition	A	S	B	E	P	H		T	L	
NUTR 244 Scientific Principles of Food Preparation	A	S	B	E	P	H		T	L	
NUTR 245 Scientific Principles of Food Preparation Lab	A		B	E	P	H		T	L	
• NUTR 452 Medical Nutrition Therapy	A		B	E		H		T	L	
• NUTR 455 Advanced Nutrition (former NUTR 350)	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 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 220 Classical Physics Lab	A	S	B	E	P	H	J	T	L	
PHYS 222 Physics Lab	A	S	B	E	P	H	J	T	L	
PHYS 261 Liberal Arts Physics		S	B	E	P	H	J	T	L	
• PHYS 361 Concepts of Modern Physics	A	S	B	E	P	H	J	T	L	
• PLPT 189H University Honors Seminar	A		B		P					
• PLPT 369 Introductory Plant Pathology (BIOS 369)	A	R	S	B	E	P	H		T	L
PSYC 373 Biopsychology (BIOS 373)	A	S	B	E	P	H	J	T	L	
• SCIE 185 Science & the Modern World	A	S	B		P	H	J			
• SCIE 185H Honors: Science & the Modern World	A	S	B		P	H	J			
SLPA 271 Intro to Audiology			B			H		T	L	
SLPA 455 Anatomy & Physiology of Speech & Hearing Mechanisms		R	B			H		T	L	
SOIL 153 Soil Resources (AGRO 153)	A	R	S	B	E	P	H		T	L
TXCD 206 Textiles			B			H				
WATS 281 Hydrogeography (GEOG/NRES 281)	A		B	E		H		T	L	

IS E. Historical Studies (3 hours)	A	R	S	B	E	P	H	J	T	L
• ANTH 232 Intro to Prehistory	A		S	B	E	P	H	J		
• ANTH 252 Archaeology of the World Civilizations (CLAS 252)	A		S	B	E	P		J		
ANTH 439 Archaeology of Preindustrial Civilizations	A		S	B	E	P	H	J		
ARCH 240 History of Architecture	A	R	S	B	E	P	H			
ARCH 441 Architectural History & Theory II	A	R		B	E	H				
• ARCH 442 Contemporary Architecture	A	R		B	E	H				
• CLAS 182 Alpha Learning Community Freshman Seminar	A		S	B	E	H				
• CLAS 183 Alpha Learning Community Freshman Seminar	A		S	B	E	H				
• CLAS 205 Intro to the Hebrew Bible/Old Testament (JUDS/RELG 205)	A		S	B	E	P				
• CLAS 206G Ways of Western Religion (RELG 206)	A		S	B	E	P	H	J		
CLAS 209 Ancient Civilization of the Middle East to 500 BC (HIST 209)	A		S	B	E	P	H	J		
CLAS 233 Science in the Classical World	A		S	B	E	P	H	J		
• CLAS 252 Archaeology of the World Civilizations (ANTH 252)	A		S	B	E	P		J		
CLAS 307 Early Christianity (HIST/RELG 307)	A		S	B	E	P	H	J		
CLAS 308 History of Comparative Religion (HIST/RELG 308)	A		S	B	E	P	H	J		
CLAS 331 Ancient Israel (HIST/JUDS 331)	A		S	B	E	P	H	J		
• COMM 220 Intro to Public Discourse		S	B	E	P	H	J			
ETHIN 150 African Culture & Civilization (HIST 150)	A		S	B	E	P	H	J		
ETHIN 171 Latin American Culture & Civilization (HIST 171)	A		S	B	E	P	H	J		
ETHN 241 Native American History (HIST 241)	A		S	B	E	P	H	J		
ETHN 306 African American History, 1619-1930 (HIST 306)	A		S	B	E	P	H	J		
ETHN 356 Race & Ethnicity in the American West (HIST 356)	A		S	B	E	P	H	J		
ETHN 357 History & Culture of the Mexican American (HIST 357)	A		S	B	E	P	H	J		
ETHN 370 The Making of Colonial Mexico (HIST 370)	A		S	B	E	P	H	J		
ETHN 371 The Shaping of Modern Mexico (HIST 371)	A		S	B	E	P	H	J		
• ETHN 485 Africa Since 1800 (HIST 485)	A		S	B	E	P	H	J		
• FREN 321 French Civilization I	A		S	B	E	P	H	J		
• FREN 322 French Civilization II	A		S	B	E	P	H	J		
GEOG 334 Historical Geography of the Great Plains	A		S	B	E	P	H	J		
• GERM 321 German Civilization I	A		S	B	E	P	H	J		
• GERM 322 German Civilization II	A		S	B	E	P	H	J		
HIST 100 Western Civilization to 1715	A		S	B	E	P	H	J		L
• HIST 100H Honors: Western Civilization to 1715	A		S	B	E	P	H	J		L
HIST 101 Western Civilization Since 1715	A		S	B	E	P	H	J		L
• HIST 101H Honors: Western Civilization Since 1715	A		S	B	E	P	H	J		L
• HIST 105 American Ways (POLS 105)	A		S	B	E	P	H	J	T	
• HIST 120 World History	A		S	B	E	P	H	J	T	
HIST 150 African Culture & Civilization (ETHN 150)	A		S	B	E	P	H	J		
HIST 171 Latin American Culture & Civilization (ETHN 171)	A		S	B	E	P	H	J		
HIST 181 Intro to East Asian Civilization (POLS 171)	A		S	B	E	P	H	J		
• HIST 189H University Honors Seminar	A		S	B	E	P	H	J		
HIST 201 American History to 1877	A		S	B	E	P	H	J	T	L
• HIST 201H Honors: American History to 1877	A		S	B	E	P	H	J	T	L
HIST 202 American History After 1877	A		S	B	E	P	H	J	T	L

• HIST 202H Honors: American History After 1877	A	S	B	E	P	H	J	T
HIST 209 Ancient Civilization of the Middle East to 500 BC (CLAS 209)	A	S	B	E	P	H	J	
HIST 210 Ancient Greece & Rome 500 BC-335 AD	A	S	B	E	P	H	J	
HIST 211 History of the Middle Ages	A	S	B	E	P	H	J	
HIST 212 History of Early Modern Europe: Renaissance to French Revolution	A	S	B	E	P	H	J	
HIST 217 Israel: The Holy Land (JUDS/RELG 217)	A	S	B	E	P	H	J	
HIST 218 History of Islam	A	S	B	E		H	J	
HIST 219 Intro to Jewish History	A	S	B	E	P	H	J	
HIST 220 History of Christianity	A	S	B	E	P	H	J	
HIST 221 Science in History	A	S	B	E	P	H	J	
HIST 222 History of Sport	A	S	B	E	P	H	J	
HIST 223 Spain & the Spanish Heritage	A	S	B	E	P	H	J	
HIST 225 Women in History	A	S	B	E	P	H	J	
HIST 231 History of England: Stonehenge through the Glorious Revolution	A	S	B	E	P	H	J	
HIST 232 History of England Since the Glorious Revolution	A	S	B	E	P	H	J	
HIST 241 Native American History (ETHN 241)	A	S	B	E	P	H	J	
HIST 261 Russia to the Era of Catherine the Great	A	S	B	E	P	H	J	
HIST 262 Russia: The Nineteenth & Twentieth Centuries	A	S	B	E	P	H	J	
HIST 271 The Latin American Colonies	A	S	B	E	P	H	J	
HIST 272 The Latin American Republics	A	S	B	E	P	H	J	
HIST 282 Modern East Asia	A	S	B	E	P	H	J	
HIST 306 African American History, 1619-1930 (ETHN 306)	A	S	B	E	P	H	J	
HIST 307 Early Christianity (CLAS/RELG 307)	A	S	B	E	P	H	J	
HIST 308 History of Comparative Religion (CLAS/RELG 308)	A	S	B	E	P	H	J	
HIST 329 Women in European History (WMNS 329)		S	B					
HIST 331 Ancient Israel (CLAS/JUDS 331)	A	S	B	E	P	H	J	
HIST 332 Jews in the Middle Ages (JUDS/RELG 332)	A	S	B	E		H	J	
HIST 333 Jews in the Modern World (JUDS 333)	A	S	B	E	P	H	J	
HIST 339 The Holocaust	A	S	B	E	P	H	J	
HIST 343 American Urban & Social Theory I	A	S	B	E	P	H	J	
HIST 344 American Urban & Social Theory II	A	S	B	E	P	H	J	
HIST 348 North American Environmental History		S	B	E	P		J	
HIST 349 Ideas in America to the Civil War	A	S	B	E	P	H	J	
HIST 350 Ideas in America Since the Civil War	A	S	B	E	P	H	J	
HIST 356 Race & Ethnicity in the American West (ETHN 356)	A	S	B	E	P	H	J	
HIST 357 History & Culture of the Mexican American (ETHN 357)	A	S	B	E	P	H	J	
HIST 358 History & Culture of the American Indian	A	S	B	E	P	H	J	
HIST 370 The Making of Colonial Mexico (ETHN 370)	A	S	B	E	P	H	J	
HIST 371 The Shaping of Modern Mexico (ETHN 371)	A	S	B	E	P	H	J	
HIST 372 Revolutions in Twentieth-Century Latin America	A	S	B	E	P	H	J	
HIST 381 History of Premodern Japan	A	S	B	E	P	H	J	
HIST 382 History of Modern Japan	A	S	B	E	P	H	J	
HIST 383 History of Premodern China	A	S	B	E	P	H	J	
HIST 384 History of Modern China	A	S	B	E	P	H	J	
• HIST 485 Africa Since 1800 (ETHN 485)	A	S	B	E	P	H	J	
HIST 486 History of South Africa	A	S	B	E	P	H	J	
• IDES 445 Historic Interiors II	R	B			H			

• CLAS 282 The World of Classical Rome (ENGL 240B)	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
• CLAS 283 Epic Tales: The World's Heroes & Gods	A R S B E H J T L	ENGL 311D Literature of Socialism	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	• ENGL 315A Survey of Women's Literature	A R S B E P J T L
CLAS 307 Early Christianity (HIST/RELG 307)	A R S B E P H J T L	• ENGL 315B Women in Popular Culture	A R S B E P H J T L
• CLAS 340 Women in the Biblical World (JUDS/RELG 340)	A R S B E P J T L	• ENGL 330E Chaucer, Shakespeare, Milton	A R S B E P H J T L
• CLAS 350 Literature of Judaism (JUDS/RELG 350)	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
CLAS 381 Ancient Novel (ENGL 381)	A R S B E P H J T L	• ENGL 341 Judeo-Christian Literature	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	ENGL 342A Irish Literature	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	• ENGL 347 Humanities on the Plains	A R S B E P H J T L
COMM 205 Performance of Literature	R S B E P H J T L	• ENGL 361A Intro to Early American Literature	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	• ENGL 361B Intro to Late American Literature	A R S B E P H J T L
COMM 306 Readers Theatre	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 180 Intro to 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 189H University Honors Seminar	A R S B E P H J T L	• ENGL 364 Intro to Restoration & Eighteenth-Century Literature	A R S B E P H J T L
• ENGL 200 Intro to English Studies	A R S B H J T L	• ENGL 365 Intro to Nineteenth-Century British Literature	A R S B E P H J T L
• ENGL 201A Intro to Drama	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 201B Twentieth-Century Drama	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 202 Twentieth-Century Poetry	A R S B E P H J T L	ENGL 440 Classical Drama (CLAS 483)	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	• ETHN 189H University Honors Seminar	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	FREN 282 French Literature in Translation	A R S B E P H J T L
• ENGL 209 Film: The Documentary	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
• ENGL 210B Sex Roles in Literature	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
• ENGL 210I Illness & Health in Literature	A R S B E P J T L	GERM 282 German Literature in Translation	A R S B E P H J T L
• ENGL 210T Stories & Human Experience	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
• ENGL 211A Plains Literature	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
ENGL 211D Literatures of the South	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
• ENGL 213E Intro to Film History	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
• ENGL 215E Intro to Women's Literature	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
• ENGL 215J Twentieth-Century Women Writers	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
ENGL 216A Children's Literature	A R S B E P H J T L	ITAL 301 Representative Authors I	A R S B E P H J T L
• ENGL 219 Film Genre	A R S B E P H J T L	ITAL 302 Representative Authors II	A R S B E P H J T L
• ENGL 230 English Authors Before 1800	A R S B E P H J T L	JUDS 205 Intro to the Hebrew Bible/Old Testament (CLAS/RELG 205)	A R S B E P J T L
• ENGL 230A Shakespeare	A R S B E P H J T L	JUDS 340 Women in the Biblical World (CLAS/RELG 340)	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	JUDS 350 Literature of Judaism (CLAS/RELG 350)	A R S B E P H J T L
• ENGL 233B Major American Authors	A R S B E P H J T L	• MODL 189H University Honors Seminar	A R S B E P H J T L
ENGL 234A Classic European Authors	A R S B E P H J T L	MODL 232 The Jewish Idea in Modern Literature	A R S B E J T L
ENGL 234B European Authors Since 1660	A R S B E P H J T L	MODL 234D Major Themes in World Literature (ENGL 234D)	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	MODL 285 Intro to Comparative Literature (ENGL 285)	A R S B E P H J T L
• ENGL 239B Women Filmmakers	S B	• PHIL 101 Intro to Philosophy	A R S B E P H J T L
• ENGL 240A The World of Classical Greece (CLAS 281)	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
• ENGL 240B The World of Classical Rome (CLAS 282)	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
• ENGL 243B Literature of India	A R S B E P H J T L	• PHIL 116 Philosophy & Religious Beliefs	A R S B E P H J T L
• ENGL 244 African American Literature	A R S B E P H J T L	• PHIL 182 Alpha Learning Community Freshman Seminar	A R S B E H
• ENGL 244A Intro to African Literatures	A R S B E P H J T L	• PHIL 183 Alpha Learning Community Freshman Seminar	A R S B E H
• ENGL 244B Black Women Authors	A R S B E P H J T L	• PHIL 213 Medical Ethics	A R S B E P H J T L
• ENGL 244D African Caribbean Literature	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
• ENGL 244E Early African American Literature	A R S B E P H J T L	PHIL 221 Political Philosophy	A R S B E P H J T L
• ENGL 245B Native American Literature	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
• ENGL 245D Chicano Literature	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
• ENGL 245J Jewish-American Literature	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
• ENGL 247 Literature & Arts on the Plains	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
• ENGL 261E American Literary Works	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
• ENGL 282 Literature & the Other Arts	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
ENGL 285 Intro to Comparative Literature (MODL 285)	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
• ENGL 303 Short Story	A R S B E P H J T L		

• PHIL 302 Intro to Metaphysics	A R S B E P H J T L	AHIS 246 Modern Art	A R S B E P H J T
• PHIL 314 Problems in the Philosophy of Mind	A R S B E P H J T L	AHIS 251 Art in the United States	A R S B E P H J T
PHIL 317 Philosophy of Science	A R S B E P H J T L	AHIS 256 Latin American Art	A R S B E P H J T
• PHIL 320 Ethical Theory	A R S B E P H J T L	AHIS 261 Oriental Art: India, Ceylon, Java, Japan	A R S B E P H J T
• PHIL 323 Topics in Applied Ethics	A R S B E P H J T L	AHIS 262 Oriental Art: China, Korea, Southeast Asia	A R S B E P H J T
• PHIL 325 Advanced Social Political Philosophy	A R S B E P H J T L	AHIS 341 European Art of the Nineteenth Century	A R S B E P H J T
• PHIL 327 Aesthetics	A R S B E P H J T L	AHIS 388 Arts of the 20th Century: 1900-1945 (MUNM/THEA 388)	A R S B E P H J T
PHIL 331 Hellenistic Philosophy	A R S B E P H J T L	AHIS 389 Arts of the 20th Century: 1945-Present (MUNM/THEA 389)	A R S B E P H J T
• PHIL 332 Spinoza	A R S B E P H J T L	AHIS 471 History of Photography	A R S B E P H J T
• PHIL 335 Medieval Philosophy	A R S B E P H J T L	ARCH 106 Intro to Design (IDES 106)	R S B E P H T
• PHIL 336 Ethics: Ancient & Medieval	S B	CERM 131 Intro to Ceramics	R S B P H T
• PHIL 337 Knowledge: Ancient & Medieval	S B	CERM 231 Beginning Ceramics I	R S B P H T
• PHIL 338 Metaphysics: Ancient & Medieval	S B	CERM 232 Beginning Ceramics II	R S B P H T
PHIL 340 Contemporary Analytical Philosophy	A R S B E P H J T L	• COMM 212 Debate	R S B P H T
• PHIL 341 Contemporary Continental Philosophy	A R S B E P H J T L	CURR 450 American Cultural Perspectives	A R S B P H J T
• PHIL 342 American Philosophy	S B	• through Popular Music & Guitar (MUED/ MUNM 450)	A R S B P H J T
PORT 301 Representative Authors I	A R S B E P H J T L	• DANC 159 Intro to Dance	A R S B E P H J T
PORT 302 Representative Authors II	A R S B E P H J T L	• DANC 359 History of Dance	A R S B E P H J T
• RELG 150 Explaining Religion	S	• DANC 459 Twentieth-Century Dance	A R S B E P H J T
• RELG 182 Alpha Learning Community Freshman Seminar	A R S B E	• DESN 111 Foundation Design	A R S B P H T L
• RELG 183 Alpha Learning Community Freshman Seminar	A R S B E	DRAW 101 Beginning Drawing I	A R S B P H T L
• RELG 205 Intro to the Hebrew Bible/Old Testament (CLAS/JUDS 205)	A R S B E	DRAW 102 Beginning Drawing II	R S B P H T
• RELG 206 Ways of the Western Religion (CLAS 206G)	A R S B E P H J T L	DRAW 201 Intermediate Drawing	R S B P H T
RELG 307 Early Christianity (CLAS/HIST 307)	A R S B E P H J T L	DRAW 202 Life Drawing	R S B P H T
• RELG 310 Great Ideas in Religious Thought: From God to Nothingness	A R S B E P	• ENGL 252 Writing of Fiction	A R S B P H T
• RELG 340 Women in the Biblical World (CLAS/JUDS 340)	A R S B E P	• ENGL 253 Writing of Poetry	A R S B P H T
• RELG 350 Literature of Judaism (CLAS/JUDS 350)	A R S B E P H J T L	• ENGL 259A Writing for Films & TV	A R S B P H T
• RELG 409 Religion of Late Western Antiquity (CLAS/HIST 409)	A R S B E P H J T L	GRPH 221 Beginning Graphic Design	A R S B P H T
RUSS 301 Representative Authors I	A R S B E P H J T L	GRPH 223 Basic Typography	A R S B P H T
RUSS 302 Representative Authors II	A R S B E P H J T L	• HORT 200 Landscape & Environmental Appreciation	R S B P H T
• RUSS 482 Russian Literature in Translation I	A R S B E P H J T L	• HORT 261 Floral Design I	R B H T
• RUSS 483 Russian Literature in Translation II	A R S B E P H J T L	HORT 262 Floral Design II	R B H T
SPAN 264 Spanish-American Literature in Translation I	A R S B E P H J T L	HORT 266 Intro to Landscape Design	R B H T
SPAN 265 Spanish-American Literature in Translation II	A R S B E P H J T L	IDES 106 Intro to Design (ARCH 106)	R S B E P H T
• SPAN 305 Literary Analysis in Spanish	A R S B E P H J T L	MUED 450 American Cultural Perspectives	A R S B P H J T
• SPAN 311 Representative Spanish-American Authors I	A R S B E P H J T L	• through Popular Music & Guitar (CURR/ MUNM 450)	A R S B P H J T
• SPAN 312 Representative Spanish-American Authors II	A R S B E P H J T L	MUNM 276G The Music Experience	A R S B E P H J T
• SPAN 314 Representative Authors of Spain I (former SPAN 301)	A R S B E P H J T L	MUNM 280 World Music	A R S B E P H J T
• SPAN 315 Representative Authors of Spain II (former SPAN 302)	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
• SPAN 331 Latin American Civilization	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
• WMNS 189H University Honors Seminar	A R S B E P	MUNM 388 Arts of the 20th Century: 1900-1945 (AHIS/THEA 388)	A R S B E P H J T
<b>IS G. Arts (3 hours)</b>	<b>A R S B E P H J T L</b>	MUNM 389 Arts of the 20th Century: 1945-Present (AHIS/THEA 389)	A R S B E P H J T
AHIS 101 Intro to Art History & Criticism I	A R S B E P H J T	MUNM 450 American Cultural Perspectives	A R S B P H J T
AHIS 102 Intro to Art History & Criticism II	A R S B E P H J T	• through Popular Music & Guitar (CURR/ MUNM 450)	A R S B P H J T
AHIS 211 Classical Art & Archaeology	A R S B E P H J T	MUSC 189H University Honors Seminar	A B P
AHIS 216 Medieval Art	A R S B E P H J T	MUSC 278 Analytical Listening to Music Literature	A R S B E P H J T
AHIS 221 Italian Renaissance Art	A R S B E P H J T	MUSC 365 Music History & Literature I	A R S B E P H J T
AHIS 226 Northern Renaissance Art	A R S B E P H J T	MUSC 366 Music History & Literature II	A R S B E P H J T
AHIS 231 Baroque Art	A R S B E P H J T	MUSC 370H Honors: Women Making Music	B P



HIST 371 The Shaping of Modern Mexico (ETHN 371)	A R S B E P H J T L
HIST 372 Revolutions in Twentieth-Century Latin America	A R S B P H J T L
HIST 381 History of Premodern Japan	A R S B E P H J T L
HIST 382 History of Modern Japan	A R S B E P H J T L
HIST 383 History of Premodern China	A R S B E P H J T L
HIST 384 History of Modern China	A R S B E P H J T L
• HIST 485 Africa Since 1800 (ETHN 485)	A R S B E P H J T L
HIST 486 History of South Africa	A R S B E P H J T L
HRFS 465 International Perspectives of Human Resources & Family Sciences	R B H T L
JUDS 217 Israel: The Holy Land (HIST/RELG 217)	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 340 Women in the Biblical World (CLAS/RELG 340)	A R S B E P H J T L
• JUDS 350 Literature of Judaism (CLAS/RELG 350)	A R S B E P H J T L
MNGT 361 Personnel/Human Resource Management	A R B E H T L
• MNGT 428 International Management	A R B H T L
MODL 232 The Jewish Idea in Modern Literature	A R S B E T L
MRKT 453 International Marketing	A R B H T L
• MUNM 280 World Music	A R S B E P H J T L
• MUSC 370H Honors: Women Making Music	B P
• NUTR 253 Cultural Aspects of Food & Nutrition	R S B P H T L
POLS 171 Intro to East Asian Civilization (HIST 181)	A R S B P H 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 E P H J T L
• POLS 274 Developmental Politics in East Asia (former POLS 375)	A R S B E P H J T L
POLS 277 Latin American Politics (former POLS 377)	A R S B E P H J T L
• POLS 338 Women & Politics	S B
PSYC 310 Psychology of Immigration (ETHN 310)	A R S B E P H J T L
• PSYC 421 Psychology of Gender	A R S B E P H J T L
• RELG 182 Alpha Learning Community Freshman Seminar	A R S B E H
• RELG 183 Alpha Learning Community Freshman Seminar	A R S B E H
RELG 217 Israel: The Holy Land (HIST/JUDS 217)	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 T L
• RELG 340 Women in the Biblical World (CLAS/JUDS 340)	A R S B E P H J T L
• RELG 350 Literature of Judaism (CLAS/JUDS 350)	A R S B E P H J T L
• SOCI 182 Alpha Learning Community Freshman Seminar	A R S B E H
• SOCI 183 Alpha Learning Community Freshman Seminar	A R S B E 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	A R S B E P H J T L
• TXCD 123 Clothing & Human Behavior	R B H
TXCD 123H Honors: Clothing & Human Behavior	R B H
• WMNS 189H University Honors Seminar	A R S B E P H J T L
WMNS 329 Women in European History (HIST 329)	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 I	
ACCT 413	Federal Tax Accounting II	
ADVT 357	Advertising Copy & Strategy	
ADVT 460	Advertising Media Strategy	
ADVT 489	Advertising & Public Relations Campaigns	
AECN 346	World Food Economics	• C
AECN 388	Ethics in Agriculture & Natural Resources (ALEC 388)	• F
AECN 401	Advanced Farm Management & Linear Programming	
AECN 411	Agricultural Marketing in a Multinational Environment	
AECN 420	International Food & Agricultural Trade	
AECN 445	Agricultural & Natural Resource Policy Analysis	
AGEN 225	Engineering Properties of Biological Materials (BSEN 225)	
AGEN 325	Power Systems Design (BSEN 325)	
AGEN 424	Machine Design in Agricultural Engineering	
AGEN 480	Design II in Agricultural & Biological Systems Engineering (BSEN 480)	
AGRI 103	Food, Agriculture, & Natural Resource Systems (NRES 103)	• D
AGRI 292	Intro to Global Agricultural & Natural Resources Issues	• C
AGRO 240	Forage Crop & Range Management (RNGE 240)	
AGRO 366	Soil Nutrient Relationships (SOIL 366)	
AGRO 405	Crop Management Strategies	
AGRO 445	Livestock Management on Range & Pasture (ASCI 451/RNGE 445)	
AGRO 477	Great Plains Field Pedology (GEOG 467; NRES/SOIL 477)	
AHIS 311	Greek Art & Archaeology	
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 431	Italian Baroque Art	
AHIS 441	Impressionism & Postimpressionism	
AHIS 446	Art since 1945	
AHIS 448	Post-Modernism	
AHIS 472	Photography Since 1960	

Course #	Course Name	ES
AHIS 476	History of Prints	
ALEC 102	Interpersonal Skills for Leadership	• A
ALEC 189H	University Honors Seminar	• C,F
ALEC 202	Leadership Development in Small Groups & Teams	• C
ALEC 302	Dynamics of Effective Leadership in Organizations	• C
ALEC 388	Ethics in Agriculture & Natural Resources (AECN 388)	• F
ALEC 405	Methods of Instruction for Secondary Agriscience Education	
ALEC 410	Environmental Leadership: A Historical & Ethical Perspective	• F
ALEC 414	Classic Figures in Leadership	• F
ANTH 212	Intro to Cultural Anthropology (ETHN 212)	• C
ANTH 232	Intro to Prehistory	• E
ANTH 242	Intro to Physical Anthropology	• D
ANTH 252	Archaeology of World Civilizations (CLAS 252)	• C,E,H
ANTH 412	Social Structure	
ANTH 432	Archaeological Method & Theory	
ANTH 451	Indians of Contemporary North America (ETHN 451)	
ANTH 471	Food & Human Evolution	
ANTH 476	Human Rights, Environment, & Development	
ANTH 477	Hunters–Gatherers	
ANTH 478	Pro-seminar in Latin American Studies (EDPS/GEOG/HIST/MODL/POLS/SOCI 478)	
ANTH 484	Quantitative Methods in Anthropology	
ARCH 340	Architectural History & Theory I	
ARCH 442	Contemporary Architecture	• E
ARCH 469	Senior Landscape Design (HORT 469)	
ASCI 210	Animal Products	• D
ASCI 270	Animal Welfare	• D
ASCI 310	Fresh Meats	• D
ASCI 410	Processed Meats	
ASCI 451	Livestock Management on Range & Pasture (AGRO/RNGE 445)	
ASCI 485	Animal Systems Analysis	
BIOM 201	Intro to Biometry	• B
BIOS 108	Insects, Sciences & Society (ENTO 108)	• D
BIOS 109	General Botany	• D
BIOS 202	Global Ecology: Concepts in Environmental Biology	
BIOS 203	Bioethics	• C
BIOS 230	Ecology of The Great Plains	• D
BIOS 302	Ecology & Evolution	
BIOS 369	Introductory Plant Pathology (PLPT 369)	• D
BIOS 374	Economic Botany	
BIOS 381	Invertebrate Zoology	
BIOS 385	Parasitology	
BIOS 412	Human Genetics	
BIOS 462	Animal Behavior	
BIOS 468	Field Animal Behavior	
BIOS 472	Evolution	
BIOS 487	Field Parasitology	
BIOS 488	Natural History of Invertebrates	
BRDC 370	Broadcasting Writing	
BRDC 372	Advanced Reporting for Broadcasting	
BRDC 466	Telecommunication & Information Systems	
BSEN 225	Engineering Properties of Biological Materials (AGEN 225)	
BSEN 325	Power Systems Design (AGEN 325)	
BSEN 480	Design II in Agricultural & Biological Systems Engineering (AGEN 480)	
CHEM 105	Chemistry & The Citizen I	• D
CHEM 109	General Chemistry I	• D
CHEM 111	Chemistry For Engineering & Technology	• D

Course #	Course Name	ES
CHEM 113	Fundamental Chemistry I	• D
CHEM 262	Organic Chemistry	
CHEM 421	Analytical Chemistry	
CHEM 471	Physical Chemistry	
CHEM 484	Physical Chemical Measurements	
CHEM 486	Advanced Topics in Biophysical Chemistry	
CHME 430	Chemical Engineering Lab	
CIVE 495	Senior Design Project	
CIVE 495H	Honors: Senior Design Project	
CLAS 150G	Intro to Classics	• F
CLAS 180	Classical Mythology	• F
CLAS 182	Alpha Learning Community Freshman Seminar	• E,F,H
CLAS 183	Alpha Learning Community Freshman Seminar	• E,F,H
CLAS 189H	University Honors Seminar	• F
CLAS 205	Intro to the Hebrew Bible/Old Testament (JUDS/RELG 205)	• E,F
CLAS 206G	Ways of Western Religion (RELG 206)	• E,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 Heroes & Gods	• F
CLAS 306	Second Temple Judaism (JUDS/RELG 306)	
CLAS 315	Medieval World: Byzantium (HIST 315)	
CLAS 340	Women in the Biblical World (JUDS/RELG 340)	• E,H
CLAS 350	Literature of Judaism (JUDS/RELG 350)	• E,H
CLAS 409	Religion of Late Western Antiquity (HIST/RELG 409)	• F
CNST 242	Construction Equipment & Methods II	
CNST 420	Professional Practice & Ethics	
CNST 490	Senior Construction Project	
COMM 109	Fundamentals of Human Communication	• A
COMM 109H	Honors: Fundamentals of Human Communication	• A
COMM 130	Communication Strategies in Society	• C
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 311	Business & Professional Communication	• A
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	
CRPL 300	The Community & the Future	
CSCE 230	Computer Organization	• D
CSCE 230H	Honors: Computer Organization	• D
CSCE 310	Data Structures & Algorithms	
CSCE 378	Human-Computer Interaction	
CSCE 423	Design & Analysis of Algorithms	
CSCE 461	Software Engineering	
CSCE 476	Intro to Artificial Intelligence	
CSCE 489	Computer Engineering Senior Design Project	
CURR 246	Modern Industries (former VAED 246)	• D
CURR 307	Teaching Social Studies in the Elementary School	

Course #	Course Name	ES
CURR 311	Teaching Reading in Elementary School	
CURR 313	Teaching Language Arts in Elementary School	
CURR 315	Teaching Science in the Elementary School	
CURR 330	Multicultural Education (ETHN 330)	• C,H
CURR 331	Cultural Foundations of American Education	
CURR 351	Human Technologies in Teaching	
CURR 424	Foundations of Career & Technical Education	
CURR 430	Intro to Philosophy of Education	
CURR 434	Ethics & Education	
CURR 437	Democracy & Education	
CURR 450	American Cultural Perspectives through Popular Music & Guitar (MUED/MUNM 450)	• C,G
CURR 451N	Learning & Teaching Principles & Practices: Secondary Language Arts	
CURR 451P	Learning & Teaching Principles & Practices: Secondary Mathematics	
CURR 451R	Learning & Teaching Principles & Practices: Secondary Modern Languages	
CURR 451V	Learning & Teaching Principles & Practices: Secondary Science	
CURR 451W	Learning & Teaching Principles & Practices: Secondary Social Science	
CURR 452N	Curriculum Principles & Practices: Secondary Language Arts	
CURR 452P	Curriculum Principles & Practices: Secondary Mathematics	
CURR 452R	Curriculum Principles & Practices: Secondary Modern Languages	
CURR 452V	Curriculum Principles & Practices: Secondary Science	
CURR 452W	Curriculum Principles & Practices: Secondary Social Science	
DANC 159	Intro to Dance	• G
DANC 359	History of Dance	• G
DANC 459	Twentieth-Century Dance	• G
DANC 469	Seminar in Dance	
DESN 111	Foundation Design	• G
ECON 189H	University Honors Program	
ECON 388	Comparative Economic Systems	
ECON 409	Applied Public Policy Analysis	
ECON 435	Market Completion	
ECON 457	US Economic History I (HIST 457)	
ECON 458	US Economic History II (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 478	Pro-seminar in Latin American Studies (ANTH/GEOG/HIST/MODL/POLS/SOCI 478)	
ELEC 307	Electrical Engineering Lab I	
ELEC 317	Electrical Engineering Lab II	
ELEC 494	Electrical Engineering Lab III	
ELEC 495	Electrical Engineering Design Lab	
ENGL 101 A,B,D	Composition & Literature I	• A
ENGL 102 A,B,D	Composition & Literature II	• A
ENGL 150	Composition I	• A
ENGL 150H	Honors: Composition I	• A
ENGL 151	Composition II	• A
ENGL 151H	Honors: Composition II	• A
ENGL 180	Intro to Literature	• F
ENGL 189H	University Honors Seminar	• F
ENGL 200	Intro to English Studies	• F

Course #	Course Name	ES
ENGL 201A	Intro to Drama	• F
ENGL 202	Twentieth-Century Poetry	• F
ENGL 205	Twentieth-Century Fiction	• F
ENGL 209	Film: The Documentary	• F
ENGL 210B	Sex Roles in Literature	• EH
ENGL 210I	Illness & Health in Literature	• F
ENGL 210L	Arthur in Legend & Literature	
ENGL 210P	Literature of War & Peace	
ENGL 210T	Stories & Human Experience	• F
ENGL 211A	Plains Literature	• F
ENGL 213E	Intro to Film History	• F
ENGL 215E	Intro to Women's Literature	• EH
ENGL 215J	Twentieth-Century Women Writers	• EH
ENGL 219	Film Genre	• F
ENGL 220	Intro to Linguistic Principles	• C
ENGL 230	English Authors Before 1800	• F
ENGL 230A	Shakespeare	• F
ENGL 231	English Authors after 1800	• F
ENGL 231A	The Brontes & Their World	
ENGL 233B	Major American Authors	• F
ENGL 239	Film Directors	
ENGL 239B	Women Filmmakers	• EH
ENGL 240A	The World of Classical Greece (CLAS 281)	• F
ENGL 240B	The World of Classical Rome (CLAS 282)	• F
ENGL 243B	Literature of India	• EH
ENGL 244	African American Literature	• EH
ENGL 244A	Intro to African Literatures	• EH
ENGL 244B	Black Women Authors	• EH
ENGL 244D	African Caribbean Literature	• EH
ENGL 244E	Early African American Literature	• EH
ENGL 245B	Native American Literature	• EH
ENGL 245D	Chicano Literature	• EH
ENGL 245J	Jewish-American Fiction	• EH
ENGL 247	Literature & Arts on The Plains	• F
ENGL 252	Writing of Fiction	• G
ENGL 253	Writing of Poetry	• G
ENGL 254	Composition	
ENGL 259A	Writing For Films & TV	• G
ENGL 261E	American Literary Works	• F
ENGL 270	Literary/Critical Theory	
ENGL 282	Literature & the Other Arts	• F
ENGL 303	Short Story	• F
ENGL 305A	The Novel 1700-1900	• F
ENGL 315A	Survey of Women's Literature	• EH
ENGL 315B	Women in Popular Culture	• EH
ENGL 322B	Linguistics & Society	• C
ENGL 330E	Chaucer, Shakespeare, Milton	• F
ENGL 331D	Dickens	
ENGL 333B	Fitzgerald & Hemingway	
ENGL 340	Classical Roots of English Literature	• F
ENGL 341	Judaean-Christian Literature	• F
ENGL 347	Humanities on The Plains	• F
ENGL 354	Advanced Composition	
ENGL 361A	Intro to Early American Literature	• F
ENGL 361B	Intro to Late American Literature	• F
ENGL 362	Intro to Medieval Literature	• F
ENGL 363	Intro to Renaissance Literature	• F
ENGL 364	Intro to Restoration & Eighteenth-Century Literature	• F
ENGL 365	Intro to Nineteenth-Century British Literature	• F
ENGL 373	Film Theory & Criticism	• F
ENGL 376	Rhetoric: Argument & Society	
ENGL 402L	Romantic Poetry	

Course #	Course Name	ES
ENGL 403A	American Short Story	
ENGL 405B	Nineteenth-Century British Fiction	
ENGL 405D	Twentieth-Century British Fiction	
ENGL 405G	American Novel to Dreiser	
ENGL 405K	Modern Canadian Fiction	
ENGL 411B	Plains Literature	
ENGL 414B	Twentieth-Century Women Writers	
ENGL 430A	Shakespeare I	
ENGL 439	Film Directors	
ENGL 445E	Native American Literature	
ENGL 445K	African, African American Literatures	
ENGL 457A	Composition & Rhetorical Theory	
ENGL 462	Survey of Medieval Literature	
ENGL 465	Nineteenth-Century British Literature	
ENGL 475A	Rhetorical Theory: Rhetoric of Women Writers	
ENGL 482	Literacy Issues & Community	
ENTO 108	Insects, Sciences & Society (BIOS 108)	• D
ENTR 421	Entrepreneurship & Venture Management (MNGT 421)	
ETHN 189H	University Honors Seminar	• C,F
ETHN 211	Intercultural Communication (COMM 211)	• C,H
ETHN 212	Intro to Cultural Anthropology (ANTH 212)	• C
ETHN 217	Nationality & Race Relations (SOCI 217)	• C,H
ETHN 238	Blacks & the American Political System (POLS 238)	• C,H
ETHN 330	Multicultural Education (CURR 330)	• C,H
ETHN 448	Family Diversity (SOCI 448)	• C,H
ETHN 451	Indians of Contemporary North America (ANTH 451)	
ETHN 464	Native American History (HIST 464)	
ETHN 465	History of Plains Indians (HIST 465)	
ETHN 485	Africa Since 1800 (HIST 485)	• E,H
EURO 450	Senior Seminar	
FACS 215	Critical Thinking Processes	• A
FACS 280	Family Science	
FACS 333	Families in the Economy	• C
FACS 381	Family Intervention with Fieldwork	• C
FACS 483	Women in Families	
FACS 488	Child & Family Policy	• C
FDST 101	Human Food Resources	• D
FDST 451	Food Science & Technology Seminar	
FDST 460	Concepts of Product Development	
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 445	Seventeenth Century I	
FREN 446	Seventeenth Century II	
FREN 449	Eighteenth Century I	
FREN 450	Eighteenth Century II	
FREN 453	French Literature Nineteenth Century I	
FREN 454	French Literature Nineteenth Century II	
FREN 457	Twentieth-Century French Literature I	
FREN 458	Twentieth-Century French Literature II	
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

Course #	Course Name	ES
GEOG 217	Map & Air Photo Interpretation	
GEOG 242	The Geographical Background to World Affairs	• C
GEOG 255	Intro to Atmospheric Science (METR 255)	
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 444	Geodemographics: Theoretical Concepts & Practical Applications	
GEOG 447	Political Geography	
GEOG 454	Regional Climatology (METR 454)	
GEOG 467	Great Plains Field Pedology (AGRO/NRES/SOIL 477)	
GEOG 470	Senior Seminar in Great Plains Studies (GPSP 400)	
GEOG 478	Pro-seminar in Latin American Studies (ANTH/EDPS/HIST/MODL/POLS/SOCI 478)	
GEOL 305	Geology & Resources of the Middle East	• D
GEOL 330	Paleobiology	
GEOL 340	Structural Geology	
GEOL 440	Tectonics	
GEOL 460	Summer Field Course	
GERM 203	Composition & Conversation I	
GERM 204	Composition & Conversation II	
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 442	Survey of Medieval German Literature in Translation (MODL 442)	
GERM 444	Middle High German Literature	
GERM 445	Sixteenth- & Seventeenth-Century German Literature I	
GERM 446	Sixteenth- & Seventeenth-Century German Literature II	
GERM 447	Eighteenth-Century Literature	
GERM 448	Romanticism	
GERM 449	Survey of Nineteenth-Century German Literature, 1820-1848	
GERM 450	Survey of Nineteenth-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 I: 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 470)	
GREK 461	Greek Lyric Poetry	
GREK 462	Aeschylus	
GREK 463	Sophocles	
GREK 464	Euripides	
GREK 465	Greek Comedy	
GREK 471	Herodotus	
GREK 473	Greek Orators	
GRPH 321	Intermediate Graphic Design	
GRPH 421	Advanced Graphic Design	
HHPT 279	Psychosocial Aspects of Physical Activity & Sport	• C
HHPT 486	Exercise Testing & Exercise Programming in Adult Fitness & Cardiac Rehabilitation	
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	• E

Course #	Course Name	ES
HIST 189H	University Honors Seminar	• E
HIST 201H	Honors: American History to 1877	• E
HIST 202H	Honors: American History After 1877	• E
HIST 288	Intro to Historical Methods	
HIST 315	Medieval World: Byzantium (CLAS 315)	
HIST 401	Documentary Editing	
HIST 409	Religion of Late Western Antiquity (CLAS/RELG 409)	• F
HIST 410	The Ancient Near East	
HIST 412	City States in Classical Greece	
HIST 414	Medieval Culture	
HIST 415	Origins of the European State	
HIST 417	The Roman Revolution, 133BC-68AD	
HIST 420	The Italian Renaissance	
HIST 421	The Age of Religious Reform, 1300-1650	
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 442	Antebellum America 1800-1850	
HIST 445	The American Civil War & Reconstruction	
HIST 446	America in the "Gilded Age"	
HIST 447	Family History of the US	
HIST 457	US Economic History I (ECON 457)	
HIST 458	US Economic History II (ECON 458)	
HIST 461	The Russian Revolution	
HIST 462	Recent Russia	
HIST 464	Native American History (ETHN 464)	
HIST 465	History of Plains Indians (ETHN 465)	
HIST 471	Latin America & the Outside World	
HIST 475	History of Brazil	
HIST 478	Pro-seminar in Latin American Studies (ANTH/EDPS/GEOG/MODL/POLS/SOCI 478)	
HIST 480	The Social & Economic History of China Since the Late Ming Era	
HIST 485	Africa Since 1800 (ETHN 485)	• E,H
HIST 487	The Nature of History	
HIST 488	The Historian's Craft	
HLTH 100	Healthy Lifestyles	• C
HLTH 326	Epidemiological Procedures for Community Health	
HLTH 351	School Health Programs	
HLTH 401	Health Behavior	
HORT 200	Landscape & Environmental Appreciation	• G
HORT 261	Floral Design I	• G
HORT 469	Senior Landscape Design (ARCH 469)	
HRFS 183	Orientation to Human Resources & Family Sciences Professions	
IDES 340	Historic Interiors I	
IDES 445	Historic Interiors II	• E
IMSE 315	Work Analysis & Measurement	
IMSE 415	Ergonomics I	
IMSE 416	Ergonomics II	
IMSE 445	Senior Engineering Project	
JGEN 123	The Media Today	• C
JGEN 189H	University Honors Seminar	• C
JGEN 200	Technical Communication I (former ALEC 200)	• A
JGEN 300	Technical Communication II (former ALEC 300)	• A

Course #	Course Name	ES
JGEN 321	The Citizen & the Mass Media	
JOUR 485	History of Mass Media	• C
JOUR 486	Communications Law	• C
JOUR 487	Mass Media & Society	• C
JUDS 205	Intro to the Hebrew Bible/Old Testament (CLAS/RELG 205)	• E,F
JUDS 306	Second Temple Judaism (CLAS/RELG 306)	
JUDS 340	Women in the Biblical World (CLAS/RELG 340)	• E,H
JUDS 350	Literature of Judaism (CLAS/RELG 350)	• E,H
JUDS 476	Ethnic Conflict & Identity (POLS 476)	
JUDS 477	Israel & the Middle East (POLS 477)	
LATN 444	Horace	
LATN 454	Roman Historians	
MATH 106	Analytic Geometry & Calculus I	• B
MATH 106H	Honors: Calculus I	• B
MATH 107	Analytic Geometry & Calculus II	• B
MATH 107H	Honors: Calculus II	• B
MATH 189H	University Honors Seminar	• B
MATH 203	Contemporary Mathematics	• B
MATH 208	Analytic Geometry & Calculus III	• B
MATH 208H	Honors: Analytic Geometry & Calculus III	• B
MATH 221	Differential Equations	
MATH 221H	Honors: Differential Equations	
MATH 260	Intro to Foundations of Mathematics	
MATH 310	Intro to Modern Algebra	
MATH 310H	Honors: Intro to Modern Algebra	
MATH 314	Applied Linear Algebra (Matrix Theory)	
MATH 314H	Honors: Applied Linear Algebra (Matrix Theory)	
MATH 325	Elementary Analysis	
MATH 394	Topics in Contemporary Mathematics	• B
MATH 405	Discrete & Finite Mathematics	
MATH 417	Intro to Modern Algebra I	
MATH 425	Mathematical Analysis I	
MATH 428	Principles of Operations Research	
MATH 430	Ordinary Differential Equations I	
MATH 432	Linear Optimization	
MECH 343	Elements of Machine Design	
MECH 447	Mechanical Engineering Design II	
MECH 480	Mechanical Engineering Lab I	
MECH 487	Mechanical Engineering Lab II	
METR 200	Weather & Climate	• D
METR 255	Intro to Atmospheric Science (GEOG 255)	
METR 351	Basic & Applied Climatology	• D
METR 454	Regional Climatology (GEOG 454)	
MNGT 189H	University Honors Seminar	• C
MNGT 245	Elementary Quantitative Methods	• B
MNGT 320	Principles of Management	
MNGT 360H	Honors: Managing Behavior in Organizations	• C
MNGT 421	Entrepreneurship & Venture Management (ENTR 421)	
MNGT 428	International Management	• H
MNGT 461	Advanced Personnel/Human Resource Management	
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	
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/POLS/SOCI 478)	

Course #	Course Name	ES
MRKT 346	Marketing Channels Management	• C
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 (CURR/MUNM 450)	• C,G
MUED 470	Music for the Exceptional Child	
MUNM 276G	The Music Experience	• G
MUNM 277	Art Music in the Western World (MUSC 277)	• G
MUNM 280	World Music	• G,H
MUNM 287	The History of Rock Music	• G
MUNM 450	American Cultural Perspectives through Popular Music & Guitar (CURR/MUED 450)	• C,G
MUSC 189H	University Honors Seminar	• G
MUSC 277	Art Music in the Western World (MUNM 277)	
MUSC 278	Analytical Listening to Music Literature	• G
MUSC 365	Music History & Literature I	• G
MUSC 366	Music History & Literature II	• G
MUSC 370H	Honors: Women Making Music	• G,H
MUSC 445	Analysis for Performance	
MUSC 449	Medieval Music	
MUSC 458	History of Opera I	
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 180	Journalism Today	
NEWS 184	Basic Photography	
NEWS 371	Advanced Reporting	
NEWS 381	Newspaper Editing	
NRES 103	Food, Agricultural, & Natural Resource Systems (AGRI 103)	• D
NRES 323	Natural Resources Policy (former FFWL 323)	• C
NRES 350	Wildlife Management Techniques (former FFWL 350)	
NRES 463	Fisheries Sciences	
NRES 477	Great Plains Field Pedology (GEOG 467; AGRO/SOIL 477)	
NUTR 151	Intro to Nutrition	• D
NUTR 251	Nutrition Throughout the Life Span	
NUTR 253	Cultural Aspects of Food & Nutrition	• C,H
NUTR 356	Nutrition Education in the Community	
NUTR 452	Medical Nutrition Therapy	• D
NUTR 455	Advanced Nutrition (former NUTR 350)	• D
NUTR 473	Organization & Administration of Foodservice	
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 127	Philosophy Looks at The Arts	• F
PHIL 182	Alpha Learning Community Freshman Seminar	• F
PHIL 183	Alpha Learning Community Freshman Seminar	• F
PHIL 211	Intro to Modern Logic	• B
PHIL 213	Medical Ethics	• F
PHIL 216	Intro to Psychology & Philosophy (PSYC 216)	• C
PHIL 220	Elements of Ethics	• F
PHIL 221H	Honors: Political Philosophy	• F
PHIL 223	Intro to the Philosophy of History	• E,F

Course #	Course Name	ES
PHIL 230	Philosophy of Law	• F
PHIL 231	History of Philosophy (Ancient)	• E,F
PHIL 232	History of Philosophy (Modern)	• E,F
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 335	History of Medieval Philosophy	• E,F
PHIL 336	Ethics: Ancient & Medieval	• E,F
PHIL 337	Knowledge: Ancient & Medieval	• E,F
PHIL 338	Metaphysics: Ancient & Medieval	• E,F
PHIL 341	Contemporary Continental Philosophy	• F
PHIL 342	American Philosophy	• F
PHIL 400	Undergraduate Seminar in Philosophy	
PHYS 211H	Honors: General Physics I	• D
PHYS 212H	Honors: General Physics II	• D
PHYS 343	Physics of Lasers & Modern Optics	
PHYS 361	Concepts of Modern Physics	• D
PHYS 441	Experimental Physics I	
PHYS 442	Experimental Physics II	
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 232	Public Issues in America	• C
POLS 234	Government Regulation	
POLS 236	Public Policy Analysis: Methods & Models	
POLS 238	Blacks & The American Political System (ETHN 238)	• C,H
POLS 272	Non-Western Politics	• C,H
POLS 274	Developmental Politics in East Asia (former POLS 375)	• C,H
POLS 280	Intro to Political Research	
POLS 325	Legislative Process	• C
POLS 338	Women & Politics	• H
POLS 371	Politics of the European Union	• C
POLS 374	Japanese Politics	
POLS 376	Chinese Politics	
POLS 410	The Administrative Process	
POLS 425	Congress & Public Policy	
POLS 426	Topics in American Public Policy	
POLS 430	Political Communication (COMM 430)	
POLS 441	Constitutional Law	
POLS 442	Civil Liberties: Freedom of Expression & Conviction	
POLS 443	Civil Liberties: Issues of Fairness & Equality	
POLS 450	The Making of US Foreign Policy	
POLS 459	International Political Economy	
POLS 474	Comparative Institutions	• C
POLS 476	Ethnic Conflict & Identity (JUDS 476)	
POLS 477	Israel & the Middle East (JUDS 477)	
POLS 478	Pro-seminar in Latin American Studies (ANTH/EDPS/GEOG/HIST/MODL/SOCI 478)	
POLS 481	Political Behavior	
POLS 483	Ancient & Medieval Political Theory	
POLS 484	Modern Political Theory	
POLS 485	Contemporary Political Theory	
POLS 486	Political Analysis	
PSYC 216	Intro to Psychology & Philosophy (PHIL 216)	• C
PSYC 263	Intro to Cognitive Processes	• C
PSYC 268	Learning and Motivation	• C

Course #	Course Name	ES
PSYC 288	The Psychology of Social Behavior	• C
PSYC 350	Research Methods & Data Analysis	
PSYC 421	Psychology of Gender	• H
PSYC 440	Perspectives in Psychology	
PSYC 462	Motivation & Emotion	
PSYC 486	Clinical Psychology	
RELG 150	Explaining Religion	• F
RELG 182	Alpha Learning Community Freshman Seminar	• E,F,H
RELG 183	Alpha Learning Community Freshman Seminar	• E,F,H
RELG 205	Intro to the Hebrew Bible/Old Testament (CLAS/JUDS 205)	• E,F
RELG 206	Ways of Western Religion (CLAS 206G)	• E,F
RELG 306	Second Temple Judaism (CLAS/JUDS 306)	
RELG 310	Great Ideas in Religious Thought: From God to Nothingness	• F
RELG 340	Women in the Biblical World (CLAS/JUDS 340)	• F,H
RELG 350	Literature of Judaism (CLAS/JUDS 350)	• F,H
RELG 409	Religion of Late Western Antiquity (CLAS/HIST 409)	• F
RNGE 240	Forage Crop & Range Management (AGRO 240)	
RNGE 445	Livestock Management on Range & Pasture (AGRO 445/ASCI 451)	
RUSS 441	Advanced Literary Analysis	
RUSS 442	Russian Poetry	
RUSS 482	Russian Literature in Translation I	• F
RUSS 483	Russian Literature in Translation II	• F
SCIE 185	Science and the Modern World	• D
SCIE 185H	Honors: Science and the Modern World	• D
SLPA 421	Professional Issues for the Communication Disorders Specialist	
SLPA 464	Phonological Disorders	
SOCI 101	Intro to Sociology	• C
SOCI 182	Alpha Learning Community Freshman Seminar	• C,H
SOCI 183	Alpha Learning Community Freshman Seminar	• C,H
SOCI 189H	University Honors Seminar	• C,H
SOCI 200	Women in Contemporary Society	• C,H
SOCI 210	Drugs & Society	• C
SOCI 217	Nationality & Race Relations (ETHN 217)	• C,H
SOCI 320	Sociology of Sport	• C
SOCI 444	Social Demography	• C
SOCI 448	Family Diversity (ETHN 448)	• C,H
SOCI 460	Education & Society	• C,H
SOCI 478	Pro-seminar in Latin American Studies (ANTH/EDPS/GEOG/HIST/MODL/POLS 478)	
SOCI 496	Special Topics in Crime, Deviance & Social Control	• C
SOIL 354	Soil Conservation & Watershed Management (MSYM/WATS 354)	
SOIL 366	Soil Nutrient Relationships (AGRO 366)	
SOIL 477	Great Plains Field Pedology (AGRO/NRES 477; GEOG 467)	
SPAN 305	Literary Analysis in Spanish	• F
SPAN 311	Representative Spanish-American Authors I	• F
SPAN 312	Representative Spanish-American Authors II	• F
SPAN 314	Representative Authors of Spain I (former SPAN 301)	• F
SPAN 315	Representative Authors of Spain II (former SPAN 302)	• F
SPAN 321	Spanish Civilization	• E
SPAN 331	Latin American Civilization	• E,F,H
SPAN 421	Medieval Literature	
SPAN 441	Spanish Golden Age Poetry	
SPAN 442	Spanish Golden Age Prose	
SPAN 445	Spanish Golden Age Drama	
SPAN 453	Nineteenth-Century Spanish Literature	

Course #	Course Name	ES
SPAN 456	Twentieth-Century Spanish Poetry	
SPAN 458	Twentieth-Century Spanish Drama	
SPAN 462	Spanish-American Short Story	
SPAN 497	Seminar in Spanish	
SPED 302	Assessment Techniques for Diverse Learners	
SPED 303	Behavior Management	• C
SPED 304	Instructional Methods for Students with Diverse Needs	
SPED 400	Characteristics of Exceptional Persons	
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 180	Elements of Statistics	• B
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 404	Evolution of Dramatic Theory I	
THEA 405	Evolution of Dramatic Theory II	
THEA 427	American Theatre I	
THEA 428	American Theatre II	
THEA 440	Continental Drama	• G
TXCD 123	Clothing & Human Behavior	• C,H
TXCD 222	Intermediate Design & Color Theory	• G
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	• C
TXCD 413	Textile & Apparel Merchandising	
UFND 101/102	Student Life Seminar	
UFND 103	Student Life Seminar	
UHON 200H	University Honors: Research Methods & Methodologies	
UHON 395H	University Honors Seminar	
VBMS 403	Integrated Principles & Prevention of Livestock Diseases	
VBMS 410	General Pharmacology & Toxicology	
WATS 354	Soil Conservation & Watershed Management (MSYM/SOIL 354)	
WATS 498B	Senior Project II	
WMNS 189H	University Honors Seminar	• C,F,H
WMNS 436	Saints, Witches & Madwomen (HIST 436)	

## 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 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.

## Major Academic Components

### Undergraduate Colleges

At the University of Nebraska-Lincoln there are nine 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 Engineering and Technology, the Hixson-Lied College of Fine and Performing Arts, the College of Human Resources and Family Sciences, the College of Journalism and Mass Communications, and Teachers College. 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 353 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."

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 should see their academic adviser to determine their Integrative Studies residency requirement.

2. Students graduating from the College of Engineering and Technology 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.

## Degree Programs

Actuarial Science (Arts and Sciences, Business Administration)  
 Administrative Resource Management (Teachers)  
 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 and Technology)  
 Agricultural Honors (Agricultural Sciences and Natural Resources)  
 Agricultural Journalism (Agricultural Sciences and Natural Resources)  
 Agronomy (Agricultural Sciences and Natural Resources)  
 Animal Science (Agricultural Sciences and Natural Resources)  
 Anthropology (Arts and Sciences)  
 Architectural Studies (Architecture)  
 Art (Fine and Performing Arts, Teachers)  
 Art History and Criticism (Fine and Performing Arts)  
 Athletic Training (Teachers)  
 Biochemistry (Arts and Sciences, Agricultural Sciences and Natural Resources)  
 Biological Sciences (Arts and Sciences)  
 Biological Systems Engineering (Engineering and Technology, Agricultural Sciences and Natural Resources)  
 Biology (Teachers)  
 Broadcasting (Journalism and Mass Communications)  
 Business Administration (Business Administration)  
 Business Administration, with Accounting Emphasis (Business Administration)  
 Business Education (Teachers)  
 Chemical Engineering (Engineering and Technology)  
 Chemistry (Arts and Sciences, Teachers)  
 Civil Engineering (Engineering and Technology) (Lincoln and Omaha)  
 Classics (Arts and Sciences)  
 Communication Studies (Arts and Sciences, Teachers)  
 Community Health Education (Teachers)  
 Computer Engineering (Engineering and Technology)  
 Computer Science (Arts and Sciences, Engineering and Technology)  
 Construction Management (Engineering and Technology)  
 Consumer Science and Education (Human Resources and Family Sciences)  
 Criminal Justice (Special Program)  
 Crop Protection (Agricultural Sciences and Natural Resources)  
 Dance (Fine and Performing Arts)  
 Dental Hygiene (Special Program)  
 Diversified Agricultural Studies (Agricultural Sciences and Natural Resources)  
 Earth Science (Teachers)  
 Economics (Arts and Sciences, Business Administration)  
 Economics and History (Teachers)  
 Electrical Engineering (Engineering and Technology)  
 Elementary Education (Teachers)  
 Elementary Education/Early Childhood Education (Teachers)

Elementary Education/Physical Education (Teachers)  
 Elementary Education/Special Education (Teachers)  
 English (Arts and Sciences, Teachers)  
 English as a Second Language (Teachers)  
 Environmental Studies (Arts and Sciences, Agricultural Sciences and Natural Resources)  
 European Studies (Arts and Sciences)  
 Exercise Science (Teachers)  
 Family and Consumer Sciences (Human Resources and Family Sciences)  
 Finance (Business Administration)  
 Fisheries & Wildlife (Agricultural Sciences and Natural Resources)  
 Food Science and Technology (Agricultural Sciences and Natural Resources)  
 French (Arts and Sciences, Teachers)  
 General Agriculture (Agricultural Sciences and Natural Resources)  
 Geography (Arts and Sciences)  
 Geography and History (Teachers)  
 Geology (Arts and Sciences)  
 German (Arts and Sciences, Teachers)  
 Great Plains Studies (Arts and Sciences)  
 Greek (Arts and Sciences)  
 Health Education (Teachers)  
 Health, Physical Education and Recreation Studies (Teachers)  
 Hearing Impaired (Teachers)  
 History (Arts and Sciences, Teachers)  
 Horticulture (Agricultural Sciences and Natural Resources)  
 Human Development and the Family (Human Resources and Family Sciences)  
 Industrial Engineering (Engineering and Technology)  
 Industrial Technology (Teachers)  
 Integrated Studies (Arts and Sciences)  
 Interdisciplinary Studies (Engineering and Technology)  
 International Affairs (Arts and Sciences)  
 International Business (Business Administration)  
 Journalism and English (Teachers)  
 Latin (Arts and Sciences, Teachers)  
 Latin American Studies (Arts and Sciences)  
 Management (Business Administration)  
 Marketing (Business Administration)  
 Marketing Education and Basic Business (Teachers)  
 Mathematics (Arts and Sciences, Teachers)  
 Mathematics and Statistics (Arts and Sciences)  
 Mechanical Engineering (Engineering and Technology)  
 Mechanized Systems Management (Agricultural Sciences and Natural Resources)  
 Meteorology–Climatology (Arts and Sciences)  
 Middle Grades Education (Teachers)  
 Music (Fine and Performing Arts)  
 Music/Instrumental (Fine and Performing Arts)  
 Music/Vocal (Fine and Performing Arts)  
 Music/Vocal & Instrumental (Fine and Performing Arts)  
 Natural Resources (Agricultural Sciences and Natural Resources)  
 Natural Science (Teachers)  
 News and Editorial (Journalism and Mass Communications)  
 Nursing (Special Program)  
 Nutritional Science & Dietetics (Human Resources and Family Sciences)  
 Philosophy (Arts and Sciences)  
 Physical Education (Teachers)  
 Physical Science (Teachers)  
 Physics (Arts and Sciences, Teachers)  
 Plant Pathology (Agricultural Sciences and Natural Resources)  
 Political Science (Arts and Sciences)

Political Science and History (Teachers)  
 Psychology (Arts and Sciences)  
 Range Science (Agricultural Sciences and Natural Resources)  
 Russian (Arts and Sciences, Teachers)  
 Social Science (Teachers)  
 Social Work (Special Program)  
 Sociology (Arts and Sciences)  
 Soil Science (Agricultural Sciences and Natural Resources)  
 Spanish (Arts and Sciences, Teachers)  
 Special Education-Secondary Mildly/Moderately Handicapped (Teachers)  
 Special Education-Elementary Mildly/Moderately Handicapped (Teachers)  
 Speech and English (Teachers)  
 Speech, Drama and English (Teachers)  
 Speech-Language Pathologist (Teachers)  
 Speech-Language Pathology and Audiology (Arts and Sciences)  
 Technical Education (Teachers)  
 Textiles, Clothing, and Design (Human Resources and Family Sciences)  
 Theatre Arts (Fine and Performing Arts)  
 Theatre and English (Teachers)  
 Trade and Industrial Education (Teachers)  
 University Studies (Arts and Sciences)  
 Veterinary Science (Agricultural Sciences and Natural Resources)  
 Water Science (Agricultural Sciences and Natural Resources)  
 Women's 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 four undergraduate colleges at the University. The College of Agricultural Sciences and Natural Resources offers preforestry, preveterinary medicine, and prelaw; the College of Architecture offers prearchitecture; the College of Arts and Sciences offers preparation in predental hygiene, predentistry, prelaw, premedical technology, premedicine, prenuclear medicine technology, preoptometry, prepharmacy, prephysical therapy, prephysician's assistant, preriadiologic technology, and pretheology.

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 senior 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 quartile 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)

**189H. Freshman Seminar** (3 cr) Prereq: Admission to the University Honors Program. Topic varies. Required of all students in the University Honors Program. Offered by participating academic departments.

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

**NOTE:** Many academic departments offer honors courses and provide high-ability students with special research opportunities. Refer to college and departmental listings in this bulletin for further information or contact the University Honors Program Office.

## Undergraduate Research

Both from a personal and professional point of view, one of the most rewarding experiences for undergraduate students is to engage in original research. All honors students at UNL are encouraged to undertake research projects in their junior and senior years under the guidance of a faculty mentor. Many undergraduate research projects lead to the preparation of an honors thesis which not only advances the level of academic distinction with which students may graduate but also may be presented to enhance application to graduate and professional schools. In recognition of the value of the research experience, the university provides undergraduate research scholarships to advanced students on a competitive basis and invites all students engaged in research to participate in the annual Undergraduate Research Conference in the spring semester.

## 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 have maintained a 3.6 cumulative grade point average in a specified number of courses are recognized as University Scholars. Approximately 2,500 of the university's 18,000 undergraduates meet that standard. Chancellor's Scholars are those 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 nine 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

## University Foundations Program

The University Foundations Program offers two courses that are specifically designed to help new freshmen make a successful transition from high school to college and to help them maximize their success at the University. These courses—University Foundations 101 and 102—are taken simultaneously and together total 3 credit hours. The goals of UFND 101 and 102 are to integrate the student more quickly and fully into University life, to enhance the student's life enrichment skills, and actively to involve the student in the lifelong learning process.

University Foundations 103 is a single 3-credit-hour course designed to meet the combined goals of 101 and 102. Students taking UFND 103 must **not** take 101 and 102.

University Foundations courses have no prerequisites and are not so particularly focused as to satisfy the area or group requirements of UNL's various colleges, except the College of Agricultural Science and Natural Resources. They do, however, fulfill 3 hours of the general education IS requirement in all colleges. They are introductory to the University as a whole and count as elective hours toward all undergraduate degree requirements.

## Courses of Instruction

**101. Student Life in the Academic Community** (2 cr I) Prereq: Not open to students with 35 or more semester hours of college course credit. *Students enrolling in this course must also enroll in a companion lecture course for 1 credit hour (UFND 102).* Seminar designed to help new students acclimate to and function effectively in the academic community. Working from a discipline-specific academic base, the instructor will help students develop a base of knowledge and a set of intellectual skills that will enhance personal development and academic success.

**102. Student Life in the Academic Community** (1 cr I) Prereq: Not open to students with 35 or more semester hours of college course credit. *Students enrolling in this course must also enroll in a companion seminar course for two credit hours (UFND 101).* Lecture series designed to complement the Student Life Seminars (UFND 101). Focuses on knowledge and skills essential or helpful in maximizing academic success. Illustrative topics: time management, study and research skills, methods of inquiry, assessment tools, and the organization and history of the University.

**103. Student Life in the Academic Community** (3 cr I)  
 Prereq: Not open to students with 35 or more semester hours of college course credit. *Students enrolling in this course may not enroll in UFND 101 and 102.*  
 Seminar designed to meet the goals of UFND 101 and 102.

## 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. 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 basic cost of study for many programs is not much greater than regular tuition, room and board costs at UNL.

The benefits are substantial in terms of: 1) strengthening professional potential and 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, all 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.

**Nebraska Semester Abroad.** Initiated in Spring 1992, UNL participates in the Nebraska Semester Abroad. This 11-week program of study in late March, April, May and early June is developed and led by faculty of Nebraska's university and state colleges. Students study in English at Palacky University in Olomouc, Czech Republic, and Aristotle University in Thessaloniki, Greece. A full semester of courses combining Eastern European Studies, Mediterranean Studies and independent study of the student's choosing, is available. Tuition, airfare, lodging, and meals are included in the program. Campuses will provide pre-departure orientation and preparation.

**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, Canada, China, Colombia, Costa Rica, Estonia, Fiji, Finland, France, Germany, Ghana, Hungary, Iceland, Italy, Japan, Korea, Latvia, Malta, Mexico, Netherlands, Nicaragua, Philippines, Russia, Spain, Sweden, Switzerland, Thailand, United Kingdom, and Uruguay.

**Other Consortial Programs.** As a member of the Mid American Universities-International Consortium (MAUI), UNL is able to obtain placement at most institution (resident tuition) rates at a number of study abroad programs offered by its partner universities. UNL also participates in the US-Europe exchange and is able to place its students at about 20 leading European institutions. Mechanical engineering students may study automotive engineering at a number of European universities, many of which offer courses in English. Students interested in the bicycle from the perspective of physics, sociology, or other disciplines may study at one of several universities in Europe offering individualized programs in English.

**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. A Spanish language program is also offered every spring semester in Toledo, Spain. A Japanese language program is offered through Nanzan 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.** University of Wollongong, Monash University, Clayton, Victoria, and Southern Cross University, Lismore. Other opportunities are also available.

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

**Brazil.** Federal University of Piaui.

**China.** Peking (Beijing) University, Beijing.

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

**Czech Republic.** Nebraska Semester Abroad. Intensive Czech and Russian language programs and Czech history, politics and economics taught in English, University of West Bohemia (Plzen).

**Denmark.** Denmark's International Study Program, Copenhagen. Programs in English in general studies, environmental studies, international business, and architecture.

**England and Scotland.** Universities of Lancaster (England) and Aberdeen (Scotland) and Queen Margaret College (Edinburgh, Scotland). Mathematics exchange with University of Bath (England). Physics, chemistry, mechanical engineering exchange with University of Salford (England). Program at the Center for Medieval and Renaissance Studies, University of Oxford, England.

**France.** Minimum two years college French required for programs at the Universities of Franche-Comté (Besancon), Bordeaux, and Haute Bretagne (Rennes) and the School of Architecture at Clermont-Ferrand. Programs in English at *Establishissement National D'Enseignement Supérieur Agronomique de Dijon* (Dijon).

**Germany.** All programs in German. Minimum two years college German required for programs at the Universities of Bayreuth, Hannover and Heidelberg. No prior German required for the intensive language program at *Deutsch Institute, Deutschland*, Berlin, co-sponsored by the College of Arts and Sciences and Teachers College.

**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 and at Southern Illinois University, Nakajo Campus.

**Korea.** A Korean Studies program, taught in English, is available at Keimyung University.

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

**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 Agricultural University of Norway (NLH, in Os).

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

**Spain.** University of Alicante, for those with one to two semesters Spanish; Fundación Ortega y Gasset (Toledo) and Seville programs, for those with three or more semesters Spanish.

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  
<http://www.iaffairs.unl>

## 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 343.

## 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 Research Institution I by the Carnegie Foundation. 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 35). 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 thirty-six programs leading to the degrees of doctor of philosophy (PhD), doctor of education (EdD), and doctor of musical arts (DMA).

**Masters Programs.** Graduate programs leading to the masters degree are offered by most departments and schools at UNL. Presently, seventy-seven masters programs exist under fifteen separate degree titles. Following is a list of masters degrees granted at UNL.

Master of Architecture (MArch)

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 Physical Education (MPE)

Master of Professional Accountancy (MPA)

Master of Science (MS)

Master of Science for Teachers (MScT)

Master of Secondary Teaching (MST)

**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.

**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, administration, curriculum and instruction, business administration, community and regional planning, economics, 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); and civil engineering (MS) and community and regional planning (MCRP). 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

Architecture–MArch, MS

Art–MFA

Biochemistry–MS, PhD

Biological Sciences–MS, PhD (research in veterinary science acceptable)

Biometry–MS

Business–MA, MBA, PhD

Chemistry–MS, PhD

Classics–MA

Communication Studies–MA, PhD

Community and Regional Planning–MCRP

Computer Science–MS, PhD

Economics–MA, PhD

Education (doctoral)

Administration, Curriculum, and Instruction–EdD, PhD

Community and Human Resources–EdD, PhD

Educational Administration (UNL-UNO)–EdD

Psychological and Cultural Studies–EdD, PhD

Education (masters and specialists)

Curriculum and Instruction–MA, MEd, MST, EdS

Educational Administration–MA, MEd

Educational Psychology–MA, Eds

Health, Physical Education and Recreation–MEd, MPE

Special Education and Communication Disorders–EdS

Special Education–MA, MEd

Speech-Language Pathology and Audiology–MS

Vocational and Adult Education–MA, MEd

Engineering–MEng, PhD

Agricultural and Biological Systems

Engineering–MS

Chemical Engineering–MS

Civil Engineering–MS

Computer Science–MS, PhD

Electrical Engineering–MS

Engineering Mechanics–MS

Environmental Engineering–MS

Industrial and Management Systems

Engineering–MS

Manufacturing Systems Engineering–MS

Mechanical Engineering–MS

English–MA, PhD

Entomology–MS, PhD

Family and Consumer Sciences–MS

Food Science and Technology–MS, PhD

Geography–MA, PhD

Geosciences–MS, PhD

History–MA, PhD

Horticulture–MS

Horticulture and Forestry–PhD

Human Resources and Family Sciences–MS, PhD

Journalism–MA

Leadership Education–MS

Legal Studies–MLS

Mathematics and Statistics–MA, MS, MAT, MScT, PhD

Mechanized Systems Management–MS

Modern Languages and Literatures–MA, PhD

Museum Studies–MA, MS

Music–MM, DMA

Natural Resource Sciences–MS

Nutrition–MS, PhD

Nutritional Science and Dietetics–MS

Philosophy–MA, PhD

Physics and Astronomy–MS, PhD

Political Science–MA, PhD

Psychology–MA, PhD

Sociology–MA, PhD

Survey Research and Methodology–MS

Textiles, Clothing, and Design–MA, MS

Theatre Arts and Dance–MFA

Veterinary Science–MS

Degrees at the masters and specialist level are offered at the University of Nebraska at Omaha and the University of Nebraska at Kearney; and at the masters and doctorate level (in the case of dental, medical, and pharmaceutical sciences) 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 qualifica-

tions, 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.

The *Graduate Studies Bulletin* contains complete information about graduate studies including: programs, registration, requirements for degrees, and courses of instruction. A copy of the bulletin is available by sending a check or money order for \$3.00 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 come to the Office of Graduate Studies, 301 Canfield Administration Building, to pick up an application form or phone (402) 472-2875 for more information.

## 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 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.

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.

## 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 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 Bulletin* or contact the College of Law Admissions Office at (402) 472-2161.

## Summer Sessions

The University's Summer Sessions program, one of the nation's largest, offers over 1,400 courses through 70 departments during a three-week pre-session, an eight-week session, and two five-week sessions each summer. Varying session lengths and flexible class times allow for jobs and summer activities.

Many first-year students find Summer Sessions a convenient way in which to get a head start at the University during a time when there are fewer students on campus and many opportunities for interaction with professors—the same professors who teach during the academic year.

Students find summer a good time to meet entrance requirements or make up course deficiencies. They find it is also a good time to take a course that did not fit into their academic year schedules. By taking full advantage of Summer Sessions' classes, students can reduce the number of years it takes to complete their bachelors degrees and enrich their education with field camps and special courses offered only during the summer.

For information about course offerings or enrolling during Summer Sessions contact:

Summer Sessions Office  
University of Nebraska-Lincoln  
1229 R Street  
PO Box 880251  
Lincoln, NE 68588-0251  
(402) 472-3567  
(800) 562-1035 (toll-free)

## Division of Continuing Studies

The Division of Continuing Studies extends the educational resources of the University of Nebraska-Lincoln to promote lifelong learning to citizens across Nebraska. Following is a brief mention of several departments within the division.

For additional information, contact:

Don Swoboda, Dean  
University of Nebraska-Lincoln  
340 Clifford Hardin Nebraska Center for  
Continuing Education  
PO Box 839300  
Lincoln, NE 68583-9300  
(402) 472-7821  
(402) 472-7896 (fax)  
dswoboda1@unl.edu  
<http://dcs.unl.edu>

## Part-Time Student Services and Degree Options

Located at 161 Clifford Hardin Nebraska Center for Continuing Education, the department serves those who need to attend university

classes in the evenings or on Saturday mornings. A typical student served by the department holds a full-time job, is over age 25, and attends classes part-time. Academic advising and career planning services are provided to ease the transition to academic life. By taking course work through the Evening Program, students can earn undergraduate degrees in six different areas or choose from three different graduate degrees.

For additional information, contact:

Deanna Eversoll, Director  
Division of Continuing Studies  
University of Nebraska-Lincoln  
160 Clifford Hardin Nebraska Center for  
Continuing Education  
PO Box 839200  
Lincoln, NE 68583-9200  
(402) 472-1392  
(402) 472-0591 (fax)  
eversoll@unlnotes.unl.edu  
<http://dcs.unl.edu>

## Department of Distance Education

The Department of Distance Education serves students who need a variety of ways to access quality education and professional development at nontraditional times, in nontraditional places, and with nontraditional formats.

The department offers credit and noncredit independent study courses comprising print-based instructional materials, audio and video cassettes, telephone conferencing, electronic lesson submission, computer grading options, and on-line delivery.

The department offers college, and noncredit independent study courses covering a wide variety of learning opportunities. College independent study credit courses from more than 25 academic departments are instructed by academic department faculty. All credit is awarded by the individual colleges. Noncredit independent study courses are offered for individuals who want to meet professional continuing education requirements, to upgrade their skills so that they can meet college entrance requirements, or to achieve certain competency levels in such basic skills areas as mathematics and English.

For additional information, contact:

James E. Sherwood, Director  
Division of Continuing Studies  
University of Nebraska-Lincoln  
336 Clifford Hardin Nebraska Center for  
Continuing Education  
PO Box 839800  
Lincoln, NE 68583-9800  
(402) 472-4321  
(402) 472-1901 (fax)  
unl.dde1@unl.edu  
<http://dcs.unl.edu>

## Academic Conferences and Professional Programs

Academic Conferences and Professional Programs integrates UNL's teaching, research, and outreach missions by developing innovative academic-based programs that mirror the institution's strengths. All programs are cosponsored by academic and administrative units at UNL.

Through academic linkages within the institution, and partnerships that link UNL with a variety of external constituencies, the department helps extend the university's impact well

beyond its geographic borders. During 1997-98 more than 10,000 people attended academic and professional programs presented by the Department of Academic Conferences and Professional Programs.

For additional information, contact:

Larry Hammer, Director  
Division of Continuing Studies  
University of Nebraska-Lincoln  
156 Clifford Hardin Nebraska Center for  
Continuing Education  
PO Box 839600  
Lincoln, NE 68583-9600  
(402) 472-2844  
(402) 472-9688 (fax)  
acpp1@unl.edu  
<http://dcs.unl.edu>

## Department of Academic Telecommunications

The Department of Academic Telecommunications reaches out to serve students who need a variety of ways to access quality education both academic and professional. The department recognizes the unique needs of adult students and extends the university's resources by serving students in their own communities and at times convenient for them. The programming available via telecommunications includes undergraduate courses, graduate degree programs, and a variety of noncredit activities. The staff designs, develops, and conducts programming for Nebraska CorpNet, a corporate training network that uses one-way video and two-way audio connections to bring educational services directly to the work site. Academic Telecommunications provides access to library and computer resources, advisers, and registration services.

For additional information, contact:

Nancy Aden, Director  
Division of Continuing Studies  
University of Nebraska-Lincoln  
334 Clifford Hardin Nebraska Center for  
Continuing Education  
PO Box 839805  
Lincoln, NE 68583-9805  
(402) 472-0400  
(402) 472-1901 (fax)  
atc3@unl.edu  
<http://dcs.unl.edu>

## Learning Centers

Learning Centers are an extension of the University created by a unique joint partnership between the University of Nebraska-Lincoln Division of Continuing Studies and UNL Cooperative Extension Division and other participating educational partners which include University of Nebraska campuses, State Colleges and Community Colleges who help support and deliver programming to the centers. Each center is to add value to their supporting educational institutions by conducting needs assessments, aggressive program marketing, student recruitment and acting as the front-line contact for lifelong learners support and services. In addition to supporting the participating institutions distance education program offerings, center coordinators have a responsibility to seek out and/or develop other needed training/education programs that address the lifelong learner's needs and interests.

The Centers include the Panhandle Learning Center at Scottsbluff, Nebraska Plains Higher Education Center at North Platte, College Park at Grand Island, Northeast Lifelong Learning Center at Norfolk, and the Southeast Learning Center in Lincoln.

For additional information, contact:

Arnold Bateman, Director  
Division of Continuing Studies  
University of Nebraska-Lincoln  
340 Clifford Hardin Nebraska Center for  
Continuing Education  
PO Box 839301  
Lincoln, NE 68583-9301  
(402) 472-3326  
(402) 472-1901 (fax)  
abateman1@unlnotes.unl.edu  
<http://dcs.unl.edu>

## International Affairs

UNL and International Affairs are committed to fostering respect for different cultural perspectives and increasing international competence. Our mission is to promote excellence in the international aspects of academic, research, service and outreach programs for UNL and all Nebraskans. International Affairs initiates, coordinates and provides support for international educational programs, faculty development, research and scholarship, service and extension for the University. International Affairs provides these services to all Nebraska schools, businesses and communities. It represents the University in multi-institutional associations, national and international organizations and agencies, and binational and multinational undertakings related to teaching, research, and public service. International Affairs includes academic and service units. The Dean of International Affairs also interfaces with the International Programs Division of the Institute of Agriculture and Natural Resources and other campuses of the University of Nebraska.

International Affairs promotes and facilitates study, research, and teaching abroad by UNL students and faculty. To this end, it offers undergraduates many study abroad opportunities for a semester, academic year, or summer session. For more information, see "Study Abroad and Exchange Programs" on page 33 of this bulletin.

International Affairs provides services and programs to the more than 1,200 international students from almost 100 countries enrolled at the University. The office also assists about 200 visiting scholars from around the world. International Affairs staff 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. For more information see "International Student Services and Programs" on page 37 of this bulletin.

International Affairs also handles the Fulbright and other programs providing overseas opportunities for faculty and graduate students, is responsible for faculty exchange programs sponsored by UNL, and serves as an advocate for international education in curricular affairs. The prestigious E.N. Thompson Forum on World Issues is a program co-coordinated by International Affairs.

It also sponsors conferences with international themes, brings distinguished international speakers to the campus, and serves as host for many visiting international guests.

The International Affairs library and resource center offers UNL faculty, staff and students information about working, traveling, or performing voluntary service in another country. International Affairs also provides travel-related services to students and staff going abroad and coordinates short-term study abroad programs through which UNL professors offer semester programs and credit and noncredit courses in foreign countries during the Winterim (winter break) and through the UNL World Campus over the summer.

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  
<http://www.iaffairs.unl>

## 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:

Office of Admissions  
University of Nebraska-Lincoln  
1410 Q Street  
PO Box 880417  
Lincoln, NE 68588-0417  
(402) 472-2023  
(800) 742-8800, ext. 2023 (toll-free)

### Campus Recreation

The Office of Campus Recreation, located in the Campus Recreation Center on City Campus and the East Campus Activities Building on East Campus, sponsors 70 intramural activities for men and women and 45 co-recreational intramural activities. Students can participate in basketball, flag football, soccer, softball, volleyball, tennis, racquetball, swimming, archery, horseshoes, golf, floor hockey, table tennis, badminton, weight lifting, wrestling, and much more.

Campus Recreation also organizes outdoor recreation opportunities such as rock climbing in South Dakota, Colorado, Wyoming, and Mexico; ice climbing in Rocky Mountain National Park; backpacking in the Grand Canyon and Mexico; canoeing in Nebraska, Colorado, and Utah; bicycling throughout Nebraska; caving in Missouri; and snow skiing in Colorado, Wyoming, and Minnesota.

The Adventure Challenge Ropes Course offers groups the opportunity to challenge themselves and improve their effectiveness.

This office coordinates sport clubs at the University as well. Students can compete against other colleges and universities in 35+ clubs like: badminton, baseball, bowling, crew, fencing, hockey, judo, lacrosse, racquetball, rifle, rugby, soccer, table tennis, taekwondo, ultimate, volleyball, and weight lifting. Athletic training and massage therapy services and programs are also available.

Campus Recreation maintains the largest supply of outdoor rental equipment in Lincoln. For a minimal charge, students, staff, and faculty can rent canoes, backpacks, tents, sleeping bags, cross-country skis, ice skates, golf clubs, racquetball and badminton rackets, ice chests, and other equipment. Basketballs, footballs, softball equipment, horseshoes, soccer balls, volleyballs, and frisbees may be checked out at no cost with valid NU identification.

Campus Recreation provides facilities for jogging, swimming, lifting weights; playing basketball, volleyball, racquetball, indoor climbing, ice skating, and tennis. The office also offers academic credit and noncredit classes: fly fishing, scuba, golf, ballroom and country dance, CPR, first aid, and many more. Fitness and Wellness Services offers personal training, aerobic and power pacing classes, and much more. Family and youth programming; special recreation events; the sale of Nebraska hunting, fishing, and park permits; and the sale of Worlds/Oceans of Fun and Silver Dollar City tickets, and discount coupons to Adventureland are also available. Campus Recreation offers accommodation to students with all abilities. Visit our web site: <[www.unl.edu/crec](http://www.unl.edu/crec)>. There are many opportunities for student employment with Campus Recreation as well.

## Career Services

Career Services on the UNL Campus is divided into two centers: the Student Employment and Internship Center and the Career Services Center. The Student Employment and Internship Center deals with issues pertaining to part-time and temporary employment. The Career Services Center handles career counseling and permanent employment issues.

## Student Employment and Internship Center (SEIC)

Through SEIC, students can find information on a variety of employment opportunities while they are still in school. The Student Employment and Internship Center advertises part-time jobs, summer jobs, and Federal Work-Study jobs, as well as internships and cooperative education positions (co-ops) to enrich students' academic programs.

Students can learn about current part-time and summer job openings by visiting the Student Boards on the third floor of the Nebraska Union, or by calling the SEIC Job Line, (402) 472-8800. Students with access to Internet can browse through current openings via the SEIC home page, [www.unl.edu/careers/seic](http://www.unl.edu/careers/seic).

Information on thousands of local, national, and international internships is maintained in the SEIC resource area. Many UNL colleges allow students to earn academic credit in conjunction with internships and co-ops. Whether or not credit is involved, students

establish learning objectives. At the end of each semester, students and supervisors evaluate the internship experience. Getting started is as easy as attending an Internship Orientation "Help Session". To sign up, students may call Career Services, 472-3145, or stop in at SEIC, 345 Nebraska Union.

Students may also find work opportunities at the "Job Prom" held in the spring semester. Employers attend this job fair to recruit students for summer jobs and internships. Many students find their summer job at this event.

## Career Services Center (CSC)

The Career Services Center is located in rooms 230 and 225 Nebraska Union. Room 230 houses the administrative offices. It is also where students undecided about a major or a career, would visit with a counselor regarding interest and/or skill assessments. Room 225 houses the Career Resource Library as well as the area in which campus interviews are conducted. The library contains career related information in a variety of formats including books, videos and CD-ROMs. Additionally, it serves as the distribution point for graduate and professional school testing materials.

In addition to providing career information and assistance to the undecided student, the Career Services Center also offers help to job-seeking graduates and alumni. The Center maintains credential files, administers an active resume referral service, posts thousands of current job openings, provides help with resume and interview preparation and arranges interviews with employers who are recruiting UNL students. The Career Services Center also sponsors a variety of career fairs in both the fall and spring semesters.

Additional information regarding both divisions of UNL Career Services may be found on the World Wide Web at: <http://www.unl.edu/careers>.

## 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. A full range of psychiatric services is available within CAPS, including assessment, medication, and follow-up.

## 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, 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  
dailyneb.com

## International Student Services and Programs

The University of Nebraska-Lincoln is host to about 1,200 international students representing almost 100 countries around the world. International Affairs assists these students, who are trying to adjust to a new culture and a new academic system, with academic, immigration, financial, health and personal issues. Each semester an extensive orientation program is provided to all international students new to the University.

International students may be matched with domestic UNL students through the English Conversation Partners Program. They also may become acquainted with individuals in the Lincoln community by participating in the Lincoln Friends of Foreign Students program.

Opportunities for visits to Nebraska towns to share cultures are coordinated by International Affairs. The several international student organizations on campus work with International Affairs to provide activities such as the International Olympics and the International Bazaar.

International Affairs serves to enhance the academic experience of international students at the University of Nebraska-Lincoln and provide opportunities for all Nebraskans to gain from their presence on campus.

For additional information, contact:

International Affairs  
University of Nebraska-Lincoln  
420 University Terrace  
PO Box 80682  
Lincoln, NE 68588-0682  
iaffairs@unl.edu  
<http://www.iaffairs.unl.edu>

## Multi-Cultural Affairs

Multi-Cultural Affairs (MCA) offers supportive programs plus advocacy services for students from different cultural backgrounds, and focuses on the needs of American racial minority, first-generation, and low-income students. The Multi-Cultural Affairs Office is located in 220 Canfield Administration Building.

The staff provides assistance with personal and academic concerns, help with career decisions, and assistance in developing leadership qualities. They also offer tutoring, financial planning and community awareness opportunities for eligible students. A microcomputer lab is available.

**Student Opportunities and Services (SOS).** To help students fulfill their academic potential, Multi-Cultural Affairs sponsors the SOS Program. SOS is a federally funded program that 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, or 2) first-generation (neither parent has a four-year college degree). Students at UNL who are US citizens or permanent residents are eligible to apply to the SOS program. Applications are available at the SOS office.

The SOS Program offers several courses for credit each semester to help students develop their educational skills. These courses include small-group sections of University Foundations 101 (an orientation seminar), ENGL 150 and 151 (written composition courses), EDPS 150 (a career course), EDPS 237 (a human relations course), and MATH 100A and 101 (slower-paced sections of intermediate and college algebra).

In addition to these personalized classes, the SOS Program offers individual tutoring in all subjects and the opportunity for students to work together in study groups. Counseling is available for cultural, personal, financial, and career concerns. The Program also helps students develop leadership skills and become involved in organizations and cultural activities on campus.

**Minority Assistance Program (MAP).** To assist students of color to fulfill their academic potential, the Minority Assistance Program (MAP) staff members guide students of color toward a successful college experience at the University of Nebraska-Lincoln. With a racially diverse staff and a unique set of services, this program works to meet the educational needs of African-American, Hispanic/Latino, Asian-American, and Native American students. MAP education specialists provide assistance to students for personal and/or academic concerns, guide students with career decisions and preparation, and assist students in developing social, cultural and leadership opportunities. MAP also offers access to a computer lab, tutoring services, financial aid, and academic development workshops, and provides a link for students to various campus and community organizations.

For more information about the Minority Assistance Program or any of the other program services provided by the Office of Multi-Cultural Affairs, you may write, call, or visit:

Office of Multi-Cultural Affairs  
University of Nebraska-Lincoln  
220 Canfield Administration Building  
PO Box 880498  
Lincoln, NE 68588-0498  
(402) 472-2027

**Ronald E. McNair Project.** The Ronald E. McNair Post-Baccalaureate Achievement Project, located within the office of Multi-Cultural Affairs, is designed to assist qualified undergraduate students to enter and complete doctoral-level degree programs. The Project offers opportunities for low-income, first generation, and under-represented (racial minority) students to receive assistance as they prepare to pursue a post-baccalaureate degree. The McNair Project provides support activities to enable students to excel in their current academic studies, to engage in creative scholarly experiences, and to experience the challenges associated with being a professional university professor.

The McNair Project is a TRIO Funded Project sponsored by a US Department of Education grant. Eligible students must be low income/first generation undergraduates, and/or be a member of underrepresented groups in

higher education. All students are required to be US citizens or permanent residents and have the academic potential, desire, and commitment to pursue a doctoral degree (PhD).

The McNair Project has both an academic year and a summer component. During the academic year, McNair participants have the opportunity to travel to academic conferences; develop their graduate admissions portfolio; participate in seminars designed to prepare applicants for standardized graduate entrance examinations such as the GRE; engage in research with faculty and other students in chemistry, sociology, mathematics, psychology, engineering and related disciplines; prepare research for presentation and publication in scholarly journals; and serve as teaching assistants or mentors to pre-college students in their freshman or sophomore year.

Participants in the seven-week summer program work an average of 20-30 hours per week in a faculty-mentored research setting. In addition to participating in an undergraduate focused research/scholarly internship, seminars, professional development, and cultural activities, participants receive credit for 3 semester hours of independent study/readings. Participants receive room and board, tuition for 2 credit hours, and a performance-based stipend.

You may call or contact the McNair Project office at 402/472-7737 for more details.

**Upward Bound Project (UB).** The Upward Bound Project provides opportunities for low-income, first generation, high school students to succeed in pre-college performance, and ultimately, higher education pursuits. The goal of the program is to help students recognize and develop their potential to enroll and graduate from institutions of post-secondary education. UB is a year-round program that offers services during the academic year and in a six-week summer residential program. The academic year services are set up to support, motivate, and encourage each student's educational achievement. The six-week summer residential program offers instruction in high school core-courses that prepares the participants for the pursuit of post-secondary education. Tutors and mentors are employed to provide positive reinforcement and academic assistance.

**Upward Bound Math/Science (UBMS).** The Upward Bound Math/Science Project provides fundamental support services to 9th and 10th grade low-income, first generation students who are enrolled in Park and Goodrich Middle Schools, Lincoln Northeast and Lincoln High Schools in their preparation for college entrance. The project provides opportunities for participants to succeed in pre-college performance, and ultimately, higher education pursuits through such services as additional instructional and tutoring services, leadership and shadowing programs, help in preparing for college entrance exams, finding scholarships and financial aid, and career and college choice research, and many other opportunities. A six-week live-in summer program each summer at the University of Nebraska-Lincoln, UBMS is designed to prepare high school students who have the aptitude and the motivation to enter a post-secondary program that will lead to careers in math/science.

## 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 name brand fast food and banquet catering), a bakery, a bank, a game room, and a major bookstore, copy center services, and the student part-time employment and Career Services offices.

The City Campus Union has undergone a major renovation and expansion project. The new addition features an auditorium, expanded bookstore, additional lounge and food court dining space, and several new meeting rooms. An art gallery, copy center, and 24-hour computer lab are located on first floor.

Nebraska East Union on East Campus offers similar services to those available in the Nebraska Union on City Campus, including a bookstore. The East Union also offers bowling.

**Culture Center.** The Culture Center, located at 333 N 14th, promotes ethnic traditions and serves as a community meeting place for all students—with emphasis on Asian-American, African American, Mexican-American, and Native American students. The Culture Center seeks to meet the particular educational, cultural, and social needs of ethnic students and their student organizations. Additionally, it seeks to educate others on campus about ethnic cultures and the contribution they make to the campus community.

Services provided at the Culture Center include social events, workshops, large meeting rooms, a conference room, a resource library, study lounges, a computer room, a television and a fully equipped kitchen.

## Services for Students with Disabilities

The Services for Students with Disabilities Office, 132 Canfield Administration Building, provides class scheduling assistance, notetakers, taped text books, test accommodations, interpreters, and other 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.

Qualifying 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.

#### **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.

#### **Student Involvement**

Student Involvement, 200 Nebraska Union and 300 Nebraska East Union, serves as headquarters for student activities at UNL. Student Involvement coordinates services for the University's student organizations, maintains an activities calendar, maintains a resource library including sources on topics of special interest to student leaders, and sponsors several UNL programs. The University Program Council, the Culture Center, student organizations, and the Women's Center are programs offered through Student Involvement.

**Involvement Resources.** Student Involvement provides many resources to help students become involved in campus life. Activities fairs are held at both Unions; the Student Involvement Team makes presentations and publications describing involvement opportunities that are available. The publication *Involvement Guide* provides students with a variety of involvement opportunities on campus, in the City of Lincoln and surrounding areas.

**Co-Curricular Involvement.** Students can meet the Comprehensive Education Program co-curricular component expectations by using the resource *Essential Experiences Guide to Co-Curricular Learning*. Students are involved in planning and documenting their involvement through eight categories. A core of faculty, staff and students serve as co-curricular resource "guides" to assist students in rounding out their academic experience with out-of-classroom activity and involvement. Recognition for achievements by students is held each spring.

**Leadership Development.** Student Involvement presents workshops for students and student organizations. The office coordinates annual student leadership conferences, an emerging-leader class for new students, leadership institutes for upperclass students, and provides checklists and assessments to identify leadership skills.

**Student Organizations.** Students at the University continually develop informal groups for various purposes. Currently, there are over 300 officially recognized student organizations in which students can participate. The Student Involvement publication *Involvement Guide* lists all current organizations and a contact person for each.

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

**University Program Council.** The University Program Council is a totally student governed organization that plans many of the cultural, entertainment, and educational activities at the University. Through student fee funding, the Council sponsors major lectures and concerts, comedians and novelty attractions, ethnic and diversity programs such as the annual Pow Wow, A Night in the Orient, Women's History Month Celebration, Chicano Awareness Week, and a variety of programs to meet the needs of the diverse UNL student body. Located in 117 Nebraska Union.

**Campus Video Information Service.** The Campus Video Information Service, C-VIS, offers daily calendar information to the campus community via a dedicated closed-circuit cable television channel. The information is available on cable channel 10, which can be received in all residence hall rooms and on special monitors located in Canfield Administration Building, the University Health Center, Love Library, the Nebraska Union, and the Nebraska East Union. All University offices contribute information for daily broadcasts.

Student Involvement provides information on community service opportunities for individuals and groups, and helps students volunteer in various campus and community agencies.

#### **Student Ombudservice**

The Student Ombudsperson is an impartial staff member who serves students by hearing and investigating issues ranging from requests for information and/or referral, to personal problems, to matters of policy and procedure. The Ombudsperson will work toward equitable solutions to specific problems and, on occasion, may recommend policy changes to address a systemic problem. The Office of the Student Ombudsperson is located in room 106 of the Canfield Administration Building, (402) 472-3755.

#### **University Bookstores**

The University Bookstores are owned by the University and operated by Follett College Stores 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 Child Care**

University Child Care offers full-time child care for children ages six weeks to six years and is located at 1432 N Street, close to the city campus. UNL students are given priority for service, however there are spaces available for staff and community members also. Students should place their names on the waiting list before they need service. The program maintains a competitive fee structure and also contracts with the Nebraska Department of Health and Human Services to provide child care for low income families eligible for child care assistance funds.

University Child Care offers developmental child care, USDA sponsored food program and low staff:child ratios. Volunteers and work-study students interested in developing their skills in working with young children assist professional staff members in the center.

For more information, please call 472-2101.

#### **University Health Center**

The University Health Center, located at 15th and U Streets, (402) 472-5000, provides quality, convenient and affordable health care to students at UNL. Clinical services include primary medical care, access to specialist evaluations, counseling and psychological services, dental care, physical therapy and nutritional counseling. Students also have access to pharmacy, laboratory and radiology services within the University Health Center. In addition to clinical services, the UHC offers a wide range of health education programs and outreach activities in support of personal wellness and the prevention of illness and injury.

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 immunity to measles (rubella) prior to their first enrollment. In addition, international students are required to provide the results of tuberculosis

screening prior to initial enrollment. 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 UHC Business Office at (402) 472-7435.

Campus Address:  
University Health Center  
15th and U Streets  
PO Box 880618  
Lincoln, NE 68588-0618  
(402) 472-5000Appointments  
(402) 472-8010Fax

## University Housing

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

### Residence Halls

All University residence halls offer full-service dining with meal options of 10, 14, or 19 meals-a-week. Students are offered unlimited amounts of food at each meal. All halls also offer areas for recreation, laundry, lounges, a student government, a computer room and a student assistant on every floor. Most rooms are doubles; some triple and a few single rooms are available. Students can choose among halls reserved for men, for women, or for coeducational life.

Residence halls furnish students with a single bed and pillow, desk, chair, shelf area, closet and dresser space, and all rooms are cable television ready. Rooms include mirrors, drapes, wastebaskets, and bulletin boards. For a modest fee, students can rent a refrigerator, microwave, bed linens, and/or a loft bed.

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 floors for business, music, freshmen, scholars, engineering, and substance free life-style. Students can apply for these and other optional living arrangements by indicating their preference on the housing contract they receive in the Spring.

Two residence halls, Selleck and Fedde (graduate students only) on East Campus, offer 12-month occupancy, which includes summers and holidays.

Students should apply for housing in residence halls as soon as possible after they receive the housing contract sent about April 15 to all students admitted to the University. Along with the contract, University Housing sends students a handbook providing complete information about residence hall life. To reserve their place in a residence hall, students must enclose an advance

payment with the contract. Due to the demand for housing, there are significant financial penalties for canceling a contract. Students should read the housing contract carefully before signing.

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)

### Fraternities and Sororities

Most fraternity and sorority chapters at the University offer living and dining facilities for 40 to 90 students. Some chapter houses provide a general sleeping or dormitory area and study rooms; others offer double and triple rooms. Most have recreation and computer rooms. All chapters have a housemother or house director. They all use a main floor as a general living area for members and guests. Because of space limitations, freshman sorority members live in UNL residence halls during the first year; most fraternities have room to house their freshman members.

Any UNL student who meets grade criteria may apply for fraternity or sorority membership. After meeting new students and reviewing their qualifications, the Greek organizations invite selected students to join. This becomes a mutual selection process.

The Interfraternity Council or the Panhellenic Association sends University incoming accepted students information about Greek life during late spring or early summer. For information contact:

Office of Greek Affairs  
University of Nebraska-Lincoln  
332 Nebraska Union  
PO Box 880458  
Lincoln, NE 68588-0458  
(402) 472-2582

### 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

Celebrating its 125th anniversary, the University of Nebraska-Lincoln Alumni Association demonstrates a long-standing commitment to the University and its community. Today, membership exceeds 32,000 alumni and friends.

The Association sponsors a wide variety of programs and services. From the maintenance of alumni biographical information and the publication of *Nebraska Magazine*, *Nebraska Alumni Resource Guide*, *Good NUz*, newsletters, and brochures which keep alumni informed of reunion, chapter, college, student, career, travel, and Husker spirit activities which foster networking and strengthen the University's academic research and service roles, the Association offers something for everyone. 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 Student Alumni Association, Scarlet and Cream Singers, zHusker.com web community, Cornhusker Yearbook, Distinguished Scholars Day, Homecoming Pizza Pass, Finals Study Break, Masters Week, New Student Enrollment, official class ring, Senior Send-off, Student Enhancement Fund, Cather Circle mentoring program, 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.

### 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, swimming and diving, 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 74,056 spectators after the addition of the skybox complex in the Fall of 1999. 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 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 facility in the country, a 5,000-seat outdoor track stadium, and a baseball field with astroturf infield and seating for 1,500. New baseball and softball complexes will be unveiled in 2001 and 2002, respectively. The Athletic Department has training table and study areas for men's and women's athletics.

In addition, the Cook Pavilion and George B. Cook Field, containing approximately 78,000 square feet, provide a sheltered practice space for Nebraska football and other intercollegiate sports. The facilities 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.**

Construction for the Lied Center for Performing Arts at UNL began in October 1986. Completed in 1989, the Center serves as a focus for the performing arts in Nebraska; an appropriate place for the citizens of Nebraska to experience performances by regionally, nationally, and internationally acclaimed artists. 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. Designed to stage major musicals and theatrical events, the Main Stage seats 2,210. It also includes a scene shop for set construction, dressing rooms, and the 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 all theatre classes as well as the administrative offices and performance spaces of the Department of Theatre Arts and the Nebraska Repertory

Theatre. University Theatre produces five to six major events and eight to ten lab productions each year in the facility's two theatres, Howell and Studio.

The Nebraska Repertory Theatre is the professional wing of the Department. Founded in 1968, Nebraska Rep signed an Actors' Equity Association contract in 1988 and continues to operate under an U/RTA agreement. Nebraska Rep stages 33 performances of three award-winning plays from March to August in Howell and Studio (Temple Bldg) and Carson (Lied Center) Theatres, plus nine performances of a Theatre for Family Audiences production.

**Devaney Sports Center.** With its 13,500-seat auditorium, 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".

## **Division of Continuing Studies at The University of Nebraska-Lincoln**

The Division of Continuing Studies is a public-service arm of the University of Nebraska-Lincoln, providing leadership to the university's extended education programs. It is a high-performance, service-oriented organization and one of the largest, most successful lifelong learning operations in the United States.

The Board of Regents established the Division of Continuing Studies in 1909 to serve the people of Nebraska. Today, the Division of Continuing Studies extends beyond the state to reach and serve people in the Midwest, the nation, and the world. Each year, the division touches more than 125,335 people by providing more than 1,600 programs and activities. Learning programs have been developed and designed with almost everyone in mind. Credit and noncredit courses as well as workshops and seminars are available to individuals or groups pursuing lifelong learning. The division provides educational opportunities to full- and part-time students through the following departments: Academic Telecommunications, Distance Education, Academic Conferences and Professional Programs, Part-Time Student Services and Degree Options, the Clifford Hardin Nebraska Center for Continuing Education, the University of Nebraska Panhandle Learning Center located in Scottsbluff, Nebraska Plains Higher Education Center located in North Platte, College Park located in Grand Island, the Northeast Lifelong Learning Center located in Norfolk, and the Southeast Learning Center located in Lincoln.

For more information about our innovative approaches to programming and the state-of-the-art delivery systems utilized by these units, call or write:

Don Swoboda, Dean  
Division of Continuing Studies  
University of Nebraska-Lincoln  
340 Clifford Hardin Nebraska Center for  
Continuing Education  
PO Box 839300  
Lincoln, NE 68583-9300  
(402) 472-3450  
<http://dcs.unl.edu>

## **Information Services**

The University provides computing resources through a variety of microcomputers and mainframes. Mainframe facilities are accessible via Internet Service Providers, the campus computer network, or public user rooms. Access to the mainframes, as well as to Macintosh and IBM microcomputers is available in residence halls and various other buildings on campus.

Students can obtain account numbers to access these resources. Students should contact the Information Services Help Desk at (402) 472-3970 if they have questions regarding access to academic computing resources.

## **Libraries**

The University's library system and services are extensive, including 2,400,000 volumes and 20,300 active periodicals and serials. In addition to needed library resources, UNL's libraries provide study areas and individual study cubicles.

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 Innovative Research Information System (IRIS) currently includes the Libraries electronic catalog, general and specialized journal indexes, full-text electronic journals, 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 1,830,000 volumes with an emphasis on humanities, social sciences, business, and education.

The library system also operates more specialized facilities on both UNL campuses. On City Campus, these include the architecture, chemistry, engineering, geology, biological sciences, mathematics, music, and physics 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 Memorial Art Gallery and Sculpture Garden.** Sheldon Memorial Art Gallery, designed by internationally acclaimed architect Philip Johnson, is one of the nation's most respected university art museums. The Sheldon Gallery's 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 twentieth century, which includes Bierstadt, O'Keeffe, Hopper, and Hofmann. The Gallery offers special exhibitions drawn from the permanent collection and other museums from around the world. The Sheldon Sculpture Garden, considered a principal component of the 60-acre UNL Botanical Gardens and Statewide Arboretum, provides a historical representation of 20th-century American sculpture and contains more than 30 key examples by American artists including a monumental work by Claes Oldenburg and Coosje van Bruggen.

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

**Great Plains Art Collection.** The Great Plains Art Collection, located in 215 Love Library, administered by the Center for Great Plains Studies, and affiliated with the Hixson-Lied College of Fine and Performing Arts, is a unique regional art collection that features art of the American West and Great Plains. It consists of over 1,400 bronze sculptures, paintings, drawings, prints, and photographs including works by prominent artists such as Bierstadt, Borglum, Kauba, Jackson, Remington, and Russell, and 20th-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 4,000-volume library of Western Americana and Canadian books. The gallery will close April 21st to prepare for the move to its new location at 12th and Q Streets in fall of 2000.

**University of Nebraska State Museum.** The University of Nebraska State Museum contains over 14 million objects and specimens in its research collections, located primarily in Nebraska Hall. The museum also exhibits interpretive 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; evolution of life in the Cenozoic; Hall of Nebraska Wildlife, featuring natural habitats, plants, and animals; the Ralph Mueller Planetarium, sky shows and laser light shows; Encounter Center, a hands-on natural science discovery center; and NASA Teachers Resource Center, science-related loan materials and in-service training. The Museum also has displays of fossil mammals, dinosaurs, and minerals.

**Lentz Center for Asian Culture.** The Lentz Center for Asian Culture, located in 329 Morrill Hall, 14th and U Streets on the city campus of the University of Nebraska-Lincoln, 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 presents objects chosen for their historical importance, cultural significance and aesthetic appeal. It includes ancient ceremonial bronzes, jade and ivory carvings, Tibetan ritual objects, and other items that reveal facets of traditional Asian civilizations. The changing exhibits feature Asian paintings, calligraphy, sculpture, ceramics, prints, textiles, and more. Occasionally, these exhibitions are accompanied by other cultural and educational events concerning Asia. Such events include lecture series, film festivals and concerts.

## Nebraska Center for Continuing Education

Located on the East Campus of the University of Nebraska-Lincoln, the Clifford Hardin Nebraska Center for Continuing Education is a comprehensive, residential education and conference center. Built with matching Kellogg funds in 1961, it is an integral part of the Division of Continuing Studies. The center is an ideal location for educational and executive conferences, including teleconferences. Both uplink and downlink satellite teleconferences are available. General use of the facility is also welcomed for meetings, workshops, banquets, wedding receptions, and hotel bed and breakfast accommodations.

The facilities include 96 guest rooms, a 600-seat tiered auditorium, a large banquet/exhibit hall, dining rooms, and 13 meeting rooms of various sizes. A gift shop and registration desk are available to guests. The center offers both catered meals and a coffee shop which is open to the public. Free parking for guests and special needs accessibility, including ramps, parking spaces, restrooms, hearing assistance devices, and specially designed hotel rooms are available. The Center is open to the public and is moderately priced.

Alumni, parents, and visitors regularly use the Center for lodging when they visit Lincoln or the campus.

For more information, please contact:  
Hotel Reservations (402) 472-3435  
Conference Sales (402) 472-0467  
Fax: (402) 472-8207  
Email: [nebcente@unl.edu](mailto:nebcente@unl.edu)  
Web site: <http://nebcenter.unl.edu>

## University of Nebraska Press

The University of Nebraska Press is a nonprofit book publisher and the state's chief publisher of scholarly and serious regional books. All new books published by the Press are referred by scholars in appropriate fields and approved by the Press Advisory Board. Publishing 155 new books a year, the Press is the third-largest public university press in the nation. In the past three years, it has won more than 30 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 products of 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 including translations, history and military history, Jewish studies,

sports, agriculture, and environmental studies. The other constituency is serious readers of the American West. To them the Press tries to bring 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, Loren Eiseley, and John Neihardt, as well as luminaries such as Tolstoy, Zola, and Henry James. Many of the 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

With an extensive satellite and closed circuit distribution system, University of Nebraska-Lincoln Television station KUON-TV operates from one of the nation's finest telecommunications facilities—the Terry M. Carpenter Nebraska Educational Telecommunications (NET) Center. Located on the East Campus, UNL 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.

UNL Television is the principal production agency for the statewide Nebraska ETV Network. In cooperation with the Nebraska Educational Telecommunications Commission and UNL Television, Nebraska ETV provides instructional and public television broadcast service to virtually every home and classroom in the state.

NEB\*SAT is Nebraska's multiple channel satellite and fiber optic educational telecommunications network. In addition to delivering Nebraska ETV's broadcast signal to its nine transmitter sites, it also links the transmitters of the Nebraska Public Radio Network. NEB\*SAT satellite channels are also used for statewide teleconferencing, public hearings, and various distance learning programs.

The Interactive Media Group is a recognized leader in developing educational programs for delivery via the Internet/World Wide Web.

## 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 described below.

## Agricultural Research Division

Darrell W. Nelson, Ph.D., Dean and Director  
 Dale H. Vanderholm, Ph.D., Associate Dean and Director  
 Steven S. Waller, Ph.D., Assistant Dean and Director  
 Marjorie J. Kostelnik, Ph.D., Assistant Director (Human Resources and Family Sciences)

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 Resource Sciences, the Cooperative Extension Division, or the College of Human Resources and Family Sciences. The Nebraska Agricultural Experiment Station was established by the Hatch Act of 1887 and receives State and Federal appropriations for research in agriculture, home economics, and natural resources. Research is conducted in several 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 15 academic departments. 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. Principal research areas include agricultural economics, biological systems engineering, agricultural education and communication, agronomy, animal science, biochemistry, entomology, food science, forestry, human resources and family sciences, horticulture, agricultural meteorology, plant pathology, 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, Clay Center, 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 US Meat Animal Research Center at Clay Center and at research field laboratories located near Concord, Bassett, Plattsmouth, Sidney, Virginia, and Whitman.

## American Mathematics Competitions Examinations Center

The Center is the national headquarters for the American Mathematics Competitions (AMC), serving as the main administrative wing for the four tests associated with the Competi-

tions: the American Junior High School Mathematics Examination, the American High School Mathematics Examination, the American Invitational Mathematics Examination, and the USA Mathematical Olympiad. As administrator for this organization, the Center produces all the tests and supplies associated with the four exams and handles their distribution. Once the examinations have been given, the Center also assists in the scoring as well as the evaluation process. The results are then published, providing the schools involved with a valuable resource for assessing their mathematics programs. Each year, over 600,000 students from the US, Canada, and US schools abroad participate in the American Mathematics Competitions.

The University of Nebraska-Lincoln serves as the site of the Mathematical Olympiad Summer Program (MOSP) for 24 promising students who have risen to the top on the AMC. One purpose of the MOSP is to coach the USA International Mathematical Olympiad Team to its highest level of performance.

In addition, the Center serves as the national headquarters for the International Mathematical Olympiad (IMO) 2001 USA. Over 85 countries will participate in the IMO which will be held in Washington, DC, July 1-14, 2001.

## Atomic, Molecular, and Optical Physics Laboratory

The Department of Physics and Astronomy in the College of Arts and Sciences has a variety of particle accelerators and lasers in Behlen Laboratory. They are used for the study of basic processes in atomic and molecular collisions, as well as the interactions between electrons and photons. These extensive laboratory facilities are supported by a modern machine shop and electronics shop. Many undergraduate research assistants work on various experiments in the Laboratory.

## 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.

## Bureau of Business Research

The Bureau of Business Research (BBR) develops and furnishes information on business conditions, economic problems, and research results for use by business firms and organizations, government agencies, news media, civic groups, and other interested individuals. The Bureau conducts surveys and completes research projects such as the Nebraska Quarterly Business Conditions Survey in partnership with the Nebraska Departments of Economic Development and Labor. The Bureau publishes a monthly newsletter *Business in Nebraska*, and other contract research publications.

## 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.

## Oscar and Luella Buros Center for Testing

The Buros Center for Testing is a program in the Department of Educational Psychology of Teachers College. The Center is composed of two institutes: the Buros Institute of Mental Measurements (BIMM) and the Buros Institute for Assessment Consultation and Outreach (BIACO). The primary objective of BIMM is to publish descriptive information and candid, critical, scholarly reviews of commercially available tests and test-related products. Major products from BIMM include the *Mental Measurements Yearbook* and *Tests in Print Series*. Electronic access to information from the Buros Institute of Mental Measurements is available on the world wide web and through our partner, SilverPlatter. BIACO provides consultative services to agencies and organizations on assessment and assessment-related activities. The scholarly journal, *Applied Measurement in Education*, is a publication sponsored by BIACO. The Buros Center also houses the Oscar K. Buros Library of Mental Measurements.

## Cedar Point Biological Station

Alan C. Kamil, Ph.D., Director  
 Richard D. Alward, Ph.D., Associate Director

Cedar Point Biological Station (CPBS) is a field station operated by the School of Biological Sciences of the College of Arts and Sciences. The station is located on Lake Ogallala in western Nebraska and is just one mile from Lake McConaughy, the state's largest body of water. CPBS is situated in close proximity to a variety of aquatic and terrestrial habitats, including streams, ponds, riparian forests, wet meadows, and prairies. CPBS is located at the junction of four major grassland types, including Nebraska Sandhills Prairie (the largest area of vegetated sand dunes in the western hemisphere). Arapaho Prairie and Crescent Lake Wildlife Refuge are nearby reserves available for University teaching and research use. Also, the Valentine and Ft. Niobrara National Wildlife Refuges are within 200 miles north of the Station. CPBS offers students the opportunity to enroll in summer field-oriented courses such as animal behavior, aquatic microbiology, grassland flora, ichthyology, limnology, ornithology, and parasitology. Students also have numerous opportunities to engage in independent study or participate as research assistants on faculty research projects.

## Center for Biological Chemistry

Robert V. Klucas, Ph.D., Director

The Center for Biological Chemistry, 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 both the UNL College of Agricultural Sciences and Natural Resources and the College of Arts and Sciences, and 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

Anne K. Vidaver, Ph.D., Director

The Center for Biotechnology, a component of the Nebraska Research Initiative, coordinates UNL's resources to build upon recent advances in biotechnology spurred by the explosion of knowledge in the areas of recombinant DNA technology, genetic engineering, and analytic technology. Its purpose is to apply these advances to the solution of biological problems having to do with agriculture, health, food, fiber, and the environment.

The Center provides a research environment comprising the combined activities of certain faculty of the College of Arts and Sciences and the Institute of Agriculture and Natural Resources. The primary focus of Center-associated faculty is on cell and molecular biology, genetics, and plant cell systems. The current main research areas of the Center are plant genetic engineering and comparative pathobiology of plant and animal diseases.

### 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, funded by the Nebraska Research Initiative, is one of eight multidisciplinary Engineering Research Centers within the College of Engineering and Technology.

### Center for Economic Education

The Center, a cooperative activity between the College of Business Administration and Teachers College, coordinates the work of the University in the field of economic education. Its functions include the provision of courses for pre-service and in-service training of teachers in the field of economics, in curriculum work with school systems, and in research and publication in this area. A specialized library of books, videos, and other teaching materials is maintained in the Center offices. The work is carried on in conjunction with the Nebraska Council on Economic Education, which is affiliated nationally with the National Council on Economic Education. The UNL Center has been designated by the National Council as the National Center for Research in Economic Education.

### Center for Electro-Optics

The Center for Electro-Optics, funded by the Nebraska Research Initiative, is one of eight Engineering Research Centers in the College of Engineering and Technology. The Center 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 Ergonomics and Safety Research

The Center for Ergonomics and Safety Research focuses on evaluating physical performance factors that affect work and the physiological results of work such as the precursors to cumulative trauma disorders. Researchers in the center are involved in improving workplace design, hand tools and ergonomic assessment. Hand ergonomics, cognitive ergonomics and dental ergonomics are current target areas.

### Center for Grassland Studies

Martin A. Massengale, Ph.D., Director

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 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 <http://ianrwww.unl.edu/ianr/cgs>, and a seminar series during the fall semester that is open to the public. The new Grazing Livestock Systems major is offered through the Center. The major is guided by faculty in the agronomy, animal science, and agricultural economics departments. Contact the Center for details.

### Center for Great Plains Studies

James Stubbendieck, Ph.D., Director

The Center for Great Plains Studies is an interdisciplinary program for all University of Nebraska campuses and is located at UNL. 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. The Frances W. Kaye Scholarship for \$500 is awarded each year

to a Great Plains Studies major. The Center's various activities include publishing journals, *Great Plains Quarterly* and *Great Plains Research*, publishing *Journals of the Lewis and Clark Expedition* and *Encyclopedia of the Great Plains*, administering the Great Plains Art Collection, sponsoring the monthly Paul A. Olson Seminars in Great Plains Studies and other outreach programs, and hosting an annual symposium that attracts scholars from all over the world. The Center also refers students and the public to its web page: <http://www.unl.edu/plains>.

### 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, funded by the Nebraska Research Initiative, is one of eight Engineering Research Centers within the College of Engineering and Technology.

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

The Center for Laser-Analytical Studies of Trace Gas Dynamics, funded by the Nebraska Research Initiative, is one of eight Engineering Research Centers in the College of Engineering and Technology. 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 Leadership Development

Allen G. Blezek, Ph.D., Director

The mission of the Center for Leadership Development is to work in unison with educational institutions, governmental agencies, business organizations, and private citizens for the attainment of personal development and leadership skills needed by the people of Nebraska and beyond.

Just as the Land Grant mission of the University of Nebraska is to serve the people of Nebraska through a comprehensive program of teaching, service and research and development activities, the Center for Leadership Development conducts programs that lead to excellence in these areas.

The research and development function within the Center strives to discover new information about the nature and application of leadership principles, with emphasis on the application of previously discovered information to new situations.

The teaching function within the Center strives to provide effective leadership education to all clientele groups who may need and/or benefit from enhanced leadership and interpersonal instruction.

The service function within the Center strives to facilitate the leadership enhancement and potential of clientele through the networking of various leadership organizations throughout the state and nation. The Center serves as a repository of leadership development education materials and maintains an accurate and up-to-date registry of resource persons recognized for their expertise in leadership and interpersonal development education.

### **Center for Materials Research and Analysis**

David J. Sellmyer, Ph.D., Director

The Center for Materials Research and Analysis (CMRA), part of the Nebraska Research Initiative, has as its major goal to be a center of excellence in research, graduate and post-doctoral education, and service in the area of materials science and engineering. The Center is a multidisciplinary organization with about sixty faculty members in seven departments in the Colleges of Arts and Sciences and Engineering and Technology. It provides visibility and program strength in selected materials research areas so as to increase the national ranking of the University among major research universities of the nation. The Center operates six Central Service Facilities which provide the infrastructure for high quality materials preparation and characterization. Research thrust areas include: 1) materials research for information and communication technologies, 2) nanostructured and complex materials, 3) molecular design of advanced materials, 4) industrial materials research and analysis, 5) cluster science and applications, and 6) biomolecular materials science. The Land-Grant role of the University and the funding basis for the Nebraska Research Initiative require that CMRA be responsive to industrial efforts in the state that rely on materials analysis and processes for their economic growth.

### **Center for Microelectronic and Optical Materials Research**

The Center for Microelectronic and Optical Materials Research, 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. The Center, funded by the Nebraska Research Initiative, is one of eight Engineering Research Centers in the College of Engineering and Technology.

### **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, super alloys 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, funded by the Nebraska Research Initiative, is one of eight Engineering Research Centers in the College of Engineering and Technology.

### **Center for Sustainable Agricultural Systems**

Charles A. Francis, Ph.D., Director

The Center for Sustainable Agricultural Systems was formed to promote an agriculture that is efficient, competitive, profitable, environmentally and socially sustainable for the indefinite future. As a unit of the Institute of Agriculture and Natural Resources, the goal of the Center is to enhance the capability of the University of Nebraska to design and evaluate sustainable production systems, and to incorporate this focus into current and future research, teaching, extension and international activities. The Center established the Integrated Farm at the Agricultural Research and Development Center where most of its research and demonstration projects take place. More information is available on the Internet at: <http://ianrwww.unl.edu/ianr/csas>.

### **Center for Water Sciences**

The Center for Water Sciences, funded by the Nebraska Research Initiative, is a statewide priority program focusing on research on water quality and water quantity related to agrichemical nonpoint contamination and management practices designed to lessen this chemical impact on groundwater. The Center provides resources and promotes coordination of research by faculty in the School of Natural Resource Sciences and more than eleven departments in the Colleges of Arts and Sciences, Engineering and Technology and the Institute of Agriculture and Natural Resources.

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

As an interdisciplinary organization, the Center on Children, Families, and the Law works to stimulate interdepartmental and inter-collegiate scholarship on children, families, and the law. Based primarily in the Law/Psychology Program, 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 Family and Consumer Sciences. The UNL Center serves as the coordinating unit for a consortium of similar centers located at SUNY-Buffalo and the Universities of Hawaii, Iowa, Pennsylvania, Pittsburgh, and Virginia.

### **Conservation and Survey Division**

Mark Kuzila, Ph.D., Director

The Conservation and Survey Division is a research and service division of the Institute of Agriculture and Natural Resources (IANR), and is affiliated with the School of Natural Resource Sciences. Some faculty teach in the School as well as in other academic departments, and many faculty supervise graduate students. The Division maintains a number of natural resources databases. Major research and service programs are: geology, water resources, soils, and geographic information systems. Studies are conducted cooperatively with local, state, and federal agencies and are published as maps and reports.

### **Cooperative Extension**

Elbert C. Dickey, Ph.D., Interim Dean and Director  
Elizabeth A. Birnstihl, Ph.D., Associate Dean  
DeLynn R. Hay, M.S., Program Leader

With our mission of "Putting Knowledge to Work," the University of Nebraska Cooperative Extension faculty specialize in developing and delivering educational programs that impact individuals; their families; their farms, ranches and businesses; and their communities.

Cooperative Extension has a statewide presence that places educational programs in every county in Nebraska. And new technology provides individuals who are time and place bound with learning opportunities. Cooperative Extension faculty are located on the University of Nebraska-Lincoln (UNL) East Campus; at Research and Extension Centers located at Clay Center, Norfolk, Lincoln, North Platte, and Scottsbluff; at Learning Centers located at Grand Island, Norfolk, North Platte, and Scottsbluff; and at 83 county offices.

University of Nebraska Cooperative Extension has been part of this state's history for over 80 years and has met many of the educational needs expressed throughout the state. In 1914 the Smith-Lever Act established Cooperative Extension as an outreach program of the land-grant college system. In 1915, the Nebraska Legislature authorized Cooperative Extension work to be carried out within Nebraska's counties in cooperation with the University of Nebraska and the United States Department of Agriculture.

Today's Extension—and the Extension of tomorrow—relies increasingly on partnerships. We are a part of—and partners with—Nebraska's communities in making certain Nebraskan's needs are served. We strive to commit the resources to meet those needs. It is through these partnerships that we are able to reach thousands of Nebraskans every year with research-based educational programs and information.

Our research-based information helps people make more informed decisions on issues that affect their economic, environmental and social well-being. Programmatic themes include agriculture profitability, food safety and health, youth and families, natural resources and the environment, and community development.

And, as the front door to the University of Nebraska, Cooperative Extension faculty help Nebraskans make connections with their University in a variety of ways.

If you would like more information about University of Nebraska Cooperative Extension and the impact of our programs, visit our web location <http://ianrwww.unl.edu/ianr/coopext/coopext.htm>.

### **Counseling and School Psychology Clinic**

The Counseling and School Psychology Clinic, located in 130 Bancroft Hall, offers counseling and assessment services to UNL students, youth and their families, and the Lincoln community. Under the supervision of licensed psychologists, graduate students in Counseling Psychology or School Psychology conduct all counseling and assessment, which gives them first-hand experience in working with clients. The Clinic's services include counseling in personal concerns, relationship problems, marriage and family problems, career and

vocational concerns, school problems, child management, and related problems. The Clinic offers these services for free to University students and operates a sliding fee scale for nonstudents.

### Engineering Research Centers

Within the College of Engineering and Technology are eight multidisciplinary research centers under the umbrella of the Engineering Research Center. Six of the centers are funded by the Nebraska Research Initiative. Collectively, the goal of these Centers is to develop an outstanding, market-driven research program and create a partnership between industry and University. The Engineering Research Center coordinates and provides support services such as graphics design, editing, word processing, and budget assistance for the seven centers. The Centers are directed and staffed by faculty members and research assistants from a variety of academic departments and are an important component of the College's graduate program. These Centers actively seek government and industrial support in the form of grants and contracts for their research activities. The Engineering Research Center also sponsors a number of conferences yearly, to generate interest and stimulate contact with industry and to share information with University faculty and colleagues.

### Family Resource Center

Richard J. Bischoff, Ph.D., Director, Marriage and Family Therapy  
 Nancy Lewis, Ph.D., R.D., F.A.D.A., L.M.N.T., Director, Nutrition Counseling  
 Kathy Prochaska-Cue, Ph.D., Director, Financial Counseling

The Family Resource Center provides mental health and relationship counseling, nutrition counseling, and financial counseling to students, staff/faculty, and people from the local community. The FRC provides a unique treatment environment in which relationship, nutrition, and financial counseling services are provided in the same facility, facilitating a multi-faceted treatment when appropriate. Counseling services are provided by students and supervised by faculty within the College of Human Resources and Family Sciences. Graduate students within the Marriage and Family Therapy program provide counseling for pre-marital, couples, parenting, family, and other relationship concerns. Emotional distress due to school, work, relationships, and family issues are frequently seen in the clinic. Graduate students in nutrition provide nutrition counseling services that address nutrition concerns at different stages of the life cycle. Nutrition counseling services include disease prevention and management and maintenance of health and wellness. Students in financial counseling provide assistance in managing individual and family finances for those experiencing financial stress due to tight budgeting, credit card debt, and other financial obligations. Strategies for preventing financial distress are also emphasized. Fees are assessed for services and are determined by income using a sliding scale fee schedule. The FRC is located on the UNL East Campus at 35th and East Campus Loop (100 yards north of Valentinos). Services may be requested by dialing 472-5035.

### Gallup Research Center

Allan L. McCutcheon, Ph.D., Director

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, Teachers College, 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

Gary P. Rupp, D.V.M., Director

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. Formed as part of the Cooperative Agreement for Veterinary Medical Education between Kansas and Nebraska, the GPVEC provides instruction in the areas of beef cattle, sheep, and swine. 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, Kansas State University College of Veterinary Medicine, and other universities as well as extension specialists and animal and veterinary scientists at MARC.

### Gilbert M. and Martha H. 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*.

### IANR International Programs Division

Arlen W. Etling, M.S., Director

The IANR International Programs Division enhances the global perspective of Nebraska citizens, students and faculty, and contributes to international development and trade. Nebraska is part of the global economy, and the need for international involvement in agriculture and natural resources has grown in importance. In Nebraska, the production of one of every three crop acres is for export. This foreign trade, modern communications and increased international travel make it vital to know more about other nations' resources, culture, and economies.

### Industrial Agricultural Products Center

Milford A. Hanna, Ph.D., Director

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 fuels, chemicals, synthetic materials, and finished goods. 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; and 4) to provide technical, marketing, and business assistance to farmer 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 Business Administration, the College of Engineering and Technology, and the School of Biological Sciences are associated with the Center.

### Institute of Agriculture and Natural Resources

Irvin T. Omtvedt, Ph.D., Vice Chancellor & Vice President  
 Edna McBreen, Ph.D., Associate Vice Chancellor  
 Alan R. Moeller, M.S., Assistant Vice Chancellor

The University of Nebraska Institute of Agriculture and Natural Resources (IANR) serves 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 and has faculty and staff located on the UNL East Campus and throughout the State. IANR faculty and staff have appointments in the following divisions: Agricultural Research Division; College of Agricultural Sciences and Natural Resources; College of Human Resources and Family Sciences (Research and Extension); Conservation and Survey Division; Cooperative Extension Division; International Programs Division, Nebraska College of Technical Agriculture; Nebraska Forest Service; and the Nebraska Statewide Arboretum. Each IANR division is administered by a dean or director. The Institute is headquartered on the UNL East

Campus and includes 15 academic departments, five regional research and extension centers, 16 multi-disciplinary centers and units, and extension programs in all 93 counties.

### 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.

### 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.

### Nebraska Center for Entrepreneurship and Productivity

The Nebraska Center for Entrepreneurship and Productivity was established in 1984 to serve as a focal umbrella structure to coordinate programs in the College of Business Administration for students interested in starting and successfully operating their own businesses. The Center's primary objectives: inspiring and enabling UNL students to operate their own new businesses successfully after graduation, developing training programs for productivity improvement and entrepreneurship, conducting research to improve the competitiveness of American small businesses, and interfacing with international research centers around the globe. The Center, located at 209 CBA, includes the Nebraska Center for Entrepreneurship, Small Business Center, Pan-Pacific Business Research Center, and Leadership Studies Program.

### Nebraska College of Technical Agriculture

Don A. Woodburn, Ph.D., Dean  
Dave Jibben, Assistant Dean/Director of Business Operations  
Gerald M. Sundquist, Registrar  
Kim Krull, Interim Director of Student Services

The Nebraska College of Technical Agriculture (NCTA), located in Curtis, prepares graduates with an associate of applied science degree. The graduates are prepared for the work force through classroom, laboratory, and work experiences in one of six majors. The College enrolls 280 students.

Majors offered by the College include:

- Agribusiness Management Systems
- Agriculture Mechanics Technology
- Agriculture Production Systems
- Horticulture Systems
- Veterinary Technology Systems

Each graduate receives training in personal leadership, social competencies, communications and technical knowledge for employment in agriculture, agribusiness, natural resources or related areas. Graduates are prepared to be contributors to their communities. Many graduates continue their higher education pursuits by transferring to the UNL College of Agricultural Sciences and Natural Resources. Historically, about 95 percent of the NCTA graduates remain in Nebraska.

### Nebraska Food Processing Center

Stephen L. Taylor, Ph.D., Director

The Nebraska Food Processing Center at UNL provides assistance on every aspect of value added food processing including product and process development/evaluation, compositional 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 Complex 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

Leonard L. Bashford, Ph.D., Director

The Nebraska Tractor Test Laboratory is responsible for testing tractors under the Nebraska tractor test law. The tractor test program resides in the Department of Biological Systems Engineering. The Laboratory tests the performance of current agricultural tractor models in conformance with standard testing procedures of the Society of Automotive Engineers and/or the Organization for Economic Cooperation and Development. Since 1920, more than 1,760 new models of agricultural tractors have been tested. The Laboratory also tests engines, alternative fuels, and off-road vehicles to determine power production and fuel efficiency.

### Prairie Schooner

A literary quarterly in its seventy-fourth year of continuous publication, *Prairie Schooner* publishes fiction, poetry, essays, interviews, articles, 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 then reach a national and international audience. Its office is located at 201 Andrews Hall on the University of Nebraska-Lincoln campus.

### Psychological Consultation Center

The Psychological Consultation Center is a mental health clinic operated by the Department of Psychology in the College of Arts and Sciences. The Center serves children, adolescents, and adults from the University and Lincoln communities. Psychological assessment and therapy is available to University students, staff, and faculty as well as individuals, families, and groups outside the University. All therapists are doctoral students supervised by PhD clinical psychologists. Specialty clinics operated through the Center include an Anxiety Disorders Clinic and Family Interaction Skills Clinic (providing services related to problems of parent-child conflict and consequences of child abuse and neglect). Groups for college age students at risk for alcohol abuse are also conducted. Fees are based on a sliding fee scale determined by client income and number of people supported by that income. The Psychological Consultation Center is located at 325 Burnett on the UNL City Campus.

### Ruth Staples Laboratory Program

The Ruth Staples Child Development Laboratory provides developmental programs for young children which involve students in Family and Consumer Sciences 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 pre-school program and its child-care center.

### School of Natural Resource Sciences

Blaine Blad, Ph.D., Director

The School of Natural Resource Sciences (SNRS) 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.

### **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.

### **University of Nebraska Engineering Extension**

Engineering Extension is a service organization of the College of Engineering and Technology. Engineering Extension is also designated as a US Department of Commerce Economic Development Administration University Center Program.

The mission of Engineering Extension is to enhance the engineering and technical capabilities of manufacturers and other businesses in the state with the expressed purpose of stimulating and maintaining industrial competitiveness.

The mission is accomplished through a programmatic systems approach guided by the following Service Model.

#### **Engineering Extension Services**

- Internet (Web Server) Resources
- Information Searches
- Links to NASA and Federal Labs

#### **University Faculty and Facilities**

- Advice from Faculty
- Linkage to University Research
- Access to University Facilities
- Educational Program Information

#### **Technology Transfer Center**

- Public Infrastructure
- Services to Counties & Municipalities
- Technology for Street, Bridge & Highway Maintenance
- Continuing Education

Services may be accessed by calling the Engineering Extension Office, 402/472-5600, or accessing our program on the Web Server: <http://www.engext.unl.edu>.



## Kathleen Anderson

"I teach anything that says 'horse.' I enjoy all aspects of horse management and horse judging, and I appreciate being able to teach and share my knowledge about horses with students who share my interest in them. In addition to my academic degrees in animal science with a specialty in horse management, I also have experience in horse breeding; horse training; and local, national, and international horse judging. So when I teach, I have a wealth of experience to draw upon, both from an academic and an industry perspective. One of my most rewarding activities is working with the judging team, where I can watch individual students grow and progress as they develop evaluation skills and self-confidence.

"The horse industry is flourishing. Students are developing independent study work experiences as pack guides, with programs such as Adopt-a-Horse, with breed associations, or with breeding farms. And our graduates are in demand not only in the traditional horse industry businesses, but for new jobs working in feed or pharmaceutical companies with product specializations for horses."

*Kathleen Anderson is an associate professor and extension horse specialist in the Department of Animal Science in the College of Agricultural Sciences and Natural Resources.*



# College of Agricultural Sciences and Natural Resources

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## About the College

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<http://www.ianr.unl.edu/ianr/casnr>

**Donald M. Edwards**, Ph.D., Dean and Professor of Biological Systems Engineering

**Steven S. Waller**, Ph.D., Associate Dean for Academic Affairs and Professor of Agronomy

**Jack L. Schinstock**, Ed.D., Assistant Dean for Student Affairs and Professor of Biological Systems Engineering

## Faculty

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Approximately 195 highly qualified faculty members, dedicated to learning and recognized for their scholarly activity in teaching, provide instruction to approximately 2,000 students, including undergraduates and graduates. A high priority is placed on advising in personal development and career preparation. Twelve academic departments and the School of Natural Resource Sciences offer a broad scope of options to majors working toward either a bachelor of science degree in agricultural sciences or a bachelor of science degree in natural resources. The College offers coordination with the UNL Honors Program, preprofessional programs in forestry and veterinary science, and joint academic transfer programs.

## Standing Committees

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**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; 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 55 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. One 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

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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, the College of Agricultural Sciences and Natural Resources (CASNR) has provided opportunities for students to develop intellectually and meet the challenges of their era. The College prepares professional leaders in the food, agriculture, and natural resource sciences, and in agribusiness through its undergraduate and graduate programs. 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

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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 sciences and natural resources through the individualization of programs, through majors, options and elective courses that will prepare students for a suitable and satisfying career in agricultural sciences and natural

resources. 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 in the Student Employment and Internship Center for part-time employment and internships and the Career Services Center for after-graduation employment. 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

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### Academic Advising

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#### Undergraduate Advising

**Steven S. Waller** - Natural Resources

**Jack L. Schinstock** - Agricultural Sciences

Advising activities are coordinated by the Assistant 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 a student will be working with an adviser who shares their academic interest. Students are encouraged to visit with their faculty adviser about their career interest and professional development opportunities. Students may change their college degree, major, and/or adviser. Such changes must be initiated in 103 Agricultural Hall. See Steven Waller for undergraduate advising in Natural Resources or Jack Schinstock for undergraduate advising in Agricultural Sciences.

## 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 agricultural sciences and natural resources careers. Many of the clubs have been ranked in national competition. Students may contact their adviser to discuss student organizations that would match their interest.

## 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 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.

## 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 role 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 following areas: two students from animal science, veterinary science, veterinary technologist, and preveterinary medicine; one student from agronomy, crop protection, and horticulture; one student from biochemistry, food science and technology, diversified agricultural studies, and mechanized systems management; and two students from natural resource and environmen-

tal economics, environmental studies, fisheries and wildlife, range science, soil science, preforestry, and water science.

## Recruitment, Retention and Career Planning

Recruitment 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 Day each fall. 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 316 East Campus Union. The office coordinates all interview activity with UNL's Student Employment and Internship Center (SEIC) for part-time employment and internships and with the Career Services Center (CSC) for after-graduation employment. Representatives from both offices maintain office hours each week in 316 East Campus Union. Please contact the office at 472-8273. Students are free to pick up registration materials for SEIC and CSC and browse through informational brochures and videos for companies that employ CASNR students.

## Diversity Recruitment and Retention

Diversity recruitment and retention is a joint program between the State 4-H Youth Development Office and CASNR. The coordinator provides information and educational experiences for prospective minority students to increase their awareness of opportunities in the various fields of agricultural sciences and natural resources. In addition, the office provides academic support services for current students and is available to address their concerns and needs and encourages student involvement in organizations such as Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS), a national student organization. For more information contact the Dean's Office, 103 Agricultural Hall, East Campus, 472-7912.

## 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 the student's 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 completed the course AGRI/NRES 388 **Employment Seminar**.
- Demonstrate **computer literacy** [successfully complete a course (i.e. AGRI 271) or a proficiency examination].

## Involvement

- Complete the co-curricular component (6 Essential Experiences Records, each from a different involvement category) of the Comprehensive Education Program-**Essential Experiences-A Guide to Co-Curricular Learning**.
- 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 **honorary** when invited.

## Experience

- Register with **Career Services** for at least two years and maintain current information on file during our period of registration.
- 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 two CASNR **Career Days**.
- Identify three **references** (e.g. academic adviser, club adviser, and employer) by the end of your 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 to receive a Dean's Certificate of Recognition.

## International Opportunities

Various opportunities for students wishing to travel abroad exist through the Dean's Office. 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 majors at the University of Nebraska-Lincoln. These grants shall be used to subsidize expenses associated with a foreign study program for credit. For more information on international opportuni-

ties, contact Dr. Jack Schinstock, 103 Agricultural Hall, the International Affairs Office, or refer to "Study Abroad and Exchange Programs" on page 33 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. The following provides a list of many of those scholarships and awards.

### Scholarships

Various donors have provided scholarships for students enrolled in CASNR. Academic year scholarship amounts range from \$100 to \$2,400. Inquiries about these scholarships can be directed to Dr. Jack Schinstock, Assistant Dean, 103 Agricultural Hall.

#### Available Only to Entering Freshmen

##### Award

Daniel Bestor  
Gary & Jeanne Bluhm  
Bluhm Memorial  
Careers in Agriculture/Cornerstone Bank  
Dow Elanco Agribusiness & Natural Science  
Luther Drake  
George I. Eberly  
Ethel Elander  
Henry R. & Judith K. Evers  
Ralph F. Hahn Memorial  
Henry F Klosterman  
Emily Krisl  
Northeast Kiwanis  
Loewenstein  
Orscheln Farm & Home Supply  
Harriet T. Randall  
Kenneth Reed  
Earl R. Taylor  
UNL Rodeo Association  
Allegra Wilkens

#### Available to Freshmen through Seniors

##### Award

Ida Wilkens Berger  
Charles Booth  
College of Agricultural Sciences & Natural Resources  
Crow's Hybrid Corn  
Alvin Gard  
Arch & Frances Jorgensen  
Leo W. Kellett Memorial  
Lampert Family  
Lancaster County Farm Bureau  
James & Anna Lemley  
Glenn & Bertha Lewis  
Nebraska Cooperative Council  
Nebraska Normandy/Corporal Herbert Leonard Ulrich  
Gov. Dale & Clarice Wolf  
Younkers Farm-Aid  
Charles W. Yount-Agriculture

#### Available to Sophomores, Juniors, Seniors

##### Award

Jim Baldridge  
Wendell & Marie Cox  
Dawson County Spare Rib Club  
George I. Eberly  
Mervin Eighmy Agricultural Scholars  
Ethel Elander  
Portia Goke

Thomas & Abbie Hatch  
Floyd F Hedlund  
Ephram & Veallon Hixon  
Albert W. Hoesch  
Holling Family  
Erwin Hopt Memorial  
Thomas Berger Johnson  
Herman & Alice Kohrs  
Lampert Family  
James W. & Anna M. Lemley  
Kedrin S. Lewis  
D. P. McGill  
George C. McGinnis  
Samuel & Martha McKelvie  
Nebraska Chapter American Society of Farm Managers & Appraisers  
Nebraska Independent Crop Consultants  
Outstanding Scholarship in Agriculture  
Floyd Runkel  
Mr. & Mrs. F. O. Sand  
Robert M. Scoular  
Vernon H. Seabury  
Soil & Water Conservation Society  
Charles Stuart Memorial  
Myron H. Swen Memorial  
Christine Votaw Vinton Memorial  
Western Seedmens Association

#### Available to Juniors and/or Seniors

##### Award

Dr. John L. & Dorothy Adams  
Baker-Goodding  
Capital City Kiwanis  
Ceres Club  
Munter Agriculture Ambassador  
Kenneth E. Schwartz  
Shear/Miles  
UNL Rodeo Association

#### Available to Transfer Students

##### Award

George Wenke Memorial  
Glen & Ester Foner

#### Major Specific Scholarships

##### Agribusiness

ADM Commodity Merchandising  
Ag Processing Inc. Fund  
Boatmen's Farm Management  
Cargill  
Cenex  
ConAgra  
Cooperative Mutual Insurance Co.  
A. W. & Edith H. Epp  
Farm Credit Services  
Nebraska Cooperative Council  
Paul J. Hupf Memorial  
Valmont Industries

##### Agricultural Economics

A. W. & Edith H. Epp  
Boatmen's Farm Management  
Farm Credit Services  
Nebraska Cooperative Council

##### Agricultural Journalism

Ira Beachler/Jay Person/Max Brown

##### KRVN

Glenn Buck Memorial  
Terry Meisenbach  
Don Ringler  
Dwain Trenkle

##### Agricultural Leadership, Education and Communication

Ag Education Freshman  
Arsheln Industries Foundation  
Felco-Land-O-Lakes District 16

Al Sick  
Snyder Industries  
Urban E. & Gertrude Jane Wendorff

##### Agronomy

Agronomy Department Freshmen  
Henry M. Beachell Agronomy Freshman Scholarship  
Henry M. Beachell Outstanding Agronomy Club Initiate Award

##### Ralph A. Elliott

T. H. Goodding Memorial Freshman  
Thomas H. Goodding Memorial  
Donald & Blanche Hanway  
Donald G. & Blanche E. Hanway Student Leadership

##### Franklin D. Keim

##### Keim Memorial

##### Henry J. Kroese

A. Bruce Maunder-Production Ag Scholarship  
Anne Meints  
Dick Monson Agronomy Awards & Scholarship Fund

Nebraska Fertilizer & Ag Chemical Institute Freshman Scholarship

##### Nebraska Seedsmen

Robert A. Olson Memorial Scholarship fund  
William & Edith Rockie

##### Servi-Tech, Inc.

Dale & Marian Brainard Smith-Agronomy Stock Seed Farms (Dr. Laurence Newell)

##### Keith & Alvina Strough Memorial Scholarship Fund

##### John C. Swinbank Memorial

Dennis Thompson Crop Improvement Scholarship

##### Orville A. Vogel Agronomy fund

##### Wylie R. Ward Scholarship

##### Animal Science

Guy N. Baker  
Maurice E. Boeckenbauer Memorial  
Robert Boeckenbauer Memorial  
Coca Cola  
Marvin E. Copple Rodeo Association  
Mike Cull Block & Bridle Judging & Activities Award

##### Derrick Family Livestock Judging

##### Ted Doane

##### G. H. Francke Livestock Judging

##### Don Geweke

##### William J. & Hazel J. Loeffel

##### Inez & Frank Mussehl

##### Eric Peterson Memorial

##### Chris & Sarah Raun

##### Walter A. & Alice V. Rockwell

##### Max & Ora Mae Stark

##### Arthur & Viola Thompson

##### UNL Livestock Judging & Meat Judging

##### Thomas H. Wake III

##### Tom & Martha Wake

##### Winkler Memorial Livestock Judging

##### Crop Protection

##### Ward A. & Helen W. Combs

##### Nebraska State Pest Control

##### Earl & Berta Ramsey

##### Tom B. Swenk

##### Environmental Studies

##### Herman & Alice Kohrs

##### Marlin Perkins

##### Donald E. & Doris L. Taylor

##### Food Science and Technology

##### Allen & Barbara Boettcher

##### Cornish Fund

##### Food Science & Technology

##### Food Science Club

##### General Mills Food Science

Inez & Frank Mussehl  
Nebraska Food Industry Association

Horticulture  
Elton Lux Memorial\*  
Kenneth Miller Memorial  
Nebraska Assoc of Nurserymen\*  
Nebraska Federated Garden Clubs\*  
Nebraska Florists Society\*  
Nebraska Golf Course Superintendent's Association\*

Nebraska Nut Growers Association\*  
Nebraska Turfgrass Foundation\*

NOR-AM\*  
Clara Tillotson  
Trans-Mississippi Scholarship\*  
Roger Uhlinger  
Undergraduate Professional Travel\*  
UNL Northern Nut Tree\*  
Western Assoc of Nurserymen\*  
Wayne Whitney Memorial  
C. C. & Martha Wiggans Memorial  
\* Contact the Horticulture Department

Mechanized Systems Management

John Deere Mentor  
Paul & Mary Beth Fischbach  
Elenore Gakemeier  
Brian J. Hiemer  
Hoppe Memorial  
Lloyd & Margaret Hurlbut  
New Holland  
Fred R. Novak  
Warren Person  
George Milo Peterson  
Edward Rogers Memorial  
Leonard Schoenleber  
William E. & Eleanor L. Splinter  
John Sulek Memorial  
Thomas L. Thompson  
Urban E. & Gertrude June Wendorff  
Ivan D. Wood Memorial

Fisheries and Wildlife  
Herman & Alice Kohrs  
Randall W. Schilling  
Izaak Walton League:

Jessie Benton  
Columbus  
Fremont  
Grand Island  
Lincoln  
Nebraska  
Platte Valley  
Seward  
West Point

Howard Wiegers  
Wildwood Trust

Range Science

Thomas H. Goodding Memorial  
Herman & Alice Kohrs  
Stock Seed Farms (Dr. Lawrence Newell)  
Joseph O. Young Memorial

Soil Science

Herman & Alice Kohrs  
William & Edith Rockie  
Soil & Water Conservation Society

Veterinary Science

Guy N. Baker  
Bill & Muriel Wilkens  
Charles W. Yount Educational Award in Veterinary Medicine

Water Science

Paul R. Fischbach  
Herman & Alice Kohrs  
Ivan D. Wood Memorial  
Soil & Water Conservation Society  
Water Quality

## Other Scholarships Available

Award  
Frederick Clements  
Louis L. & Louise G. Hall Memorial  
Donald Walters Miller  
Nebraska Chapter American Society of Farm Managers & Rural Appraisers

## 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 distinction, all candidates must complete 60 credit hours for a letter grade (rather than Pass/No Pass) at UNL. The cumulative grade point average from the semester prior to graduation will be used to determine distinction. There is no fixed GPA to qualify for this honor, but in the past, distinction has usually required a GPA of 3.75 or higher. All candidates for distinction will be notified of the honor prior to graduation.

## Admission to the College

Requirements for admission into agricultural sciences or natural resources programs in 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 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.

## 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 rather than choosing a portion from one bulletin and the remainder from another.

## College Academic Policies

### Course and Degree Requirement Exclusions and Restrictions

- Not more than 8 hours of elective credit in each of the following areas:
  - art
  - health
  - physical education and recreation (basic instruction and athletic practice courses)
  - music
  - religion
  - vocational and adult education
- Not more than 12 hours of military service credit beyond the 4 hours for basic military service, naval service, and aerospace studies.
- Not more than 12 hours of independent study.
- Not more than 24 hours of P/N grade option.
- Not more than 64 hours of correspondence courses.
- Not more than 66 hours from a community college.
- Not more than 98 hours from another four year institution.
- Not more than 6 hours of correspondence can be counted among the last 36 hours earned.
- No credit for the BS degree is allowed for MATH 100A.
- No more than 10 semester hours of D grades are transferable from colleges outside the NU system. The D grades can only be applied to free electives.

## Correspondence Courses

There are many opportunities to earn college credit through the University of Nebraska-Lincoln Division of Continuing Studies. 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:

Division of Continuing Studies  
University of Nebraska-Lincoln  
162 Clifford Hardin Nebraska Center for  
Continuing Education  
Lincoln, NE 68583-9100

## 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, major departmental office, and the Dean's Office. The contract should be completed before registration. Forms are available in 103 Agricultural Hall.

Independent study projects are in 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 degree 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:

1. The University departmental examination over subject matter studied at the sending institution;
2. 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
3. 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 chair.

## 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 Academic Senate. However, a department may specify that the pass/no pass status of its courses be limited to non-majors.

## Removal of 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 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 D/F removal 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. 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 agricultural sciences and a bachelor of science degree in natural resources.

However, they must complete an additional 30 credit hours beyond the requirements for one degree.

## Dual Degrees from CASNR and Other UNL Colleges

Students in other colleges may earn a bachelor of science degree in agricultural sciences or a bachelor of science degree in natural resources from CASNR and a degree from another UNL college. They must complete the degree requirements for both colleges and a minimum of 30 credit hours beyond their primary college.

## 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 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 or supervised study in the University of Nebraska-Lincoln Division of Continuing Studies.

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. UNL 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 a deficiency cannot apply those credits toward a degree.

## 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 in agricultural sciences and natural resources 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 or from your adviser.

## 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, 301 Canfield Administration Building. Undergraduate students cannot register for graduate courses using the Nroll system. 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.

## Multiple Majors

Students may complete requirements for more than one major by declaring, prior to the last 30 hours of study, a dual or possibly a triple major. 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 major declared. Appropriate forms must be processed in 103 Agricultural Hall.

## Transfer Credit Issues

Not more than 98 semester hours of credit from a four-year institution or another UNL college, can be applied toward a degree in agricultural sciences or in natural resources. A maximum of 66 hours may be transferred from a community 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 D grades transferred from colleges outside the University of Nebraska system. The D grades 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.

## Transfer of Essential Studies Courses from UNL Colleges

The College of Agricultural Sciences and Natural Resources will accept (directly or by substitution) for degree credit towards the general education requirements courses taken by students in fulfillment of the Essential Studies [ES] requirement in any other college within UNL.

## 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.

University of Nebraska-Lincoln students wanting to transfer credit from foreign institutions should have courses preapproved through the International Admissions Office.

## Joint Academic Transfer Programs

The College of Agricultural Sciences and Natural Resources has agreements with several 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 agricultural sciences or a bachelor of science degree in natural resources. Cooperative programs result in a single degree from either UNL or the cooperating institution.

## Dual Degree Programs

### 2+2 Programs

The 2+2 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 major leading toward a bachelor of science degree in agricultural sciences or a bachelor of science degree in natural resources.

The 2+2 Program provides a basic knowledge plus specialized course work in agricultural sciences or natural resources. Students transfer into CASNR with junior standing.

Depending on the community college, students enrolled in the 2+2 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 in agricultural sciences or natural resources. 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
- Mid-Plains Community College North Platte, NE
- Nebraska College of Technical Agriculture Curtis, NE
- Northeast Community College Norfolk, NE
- Southeast Community College Beatrice, NE
- Western Nebraska Community College Scottsbluff, NE

## 3+2 Programs

Two specialized degree programs in **animal science** and **veterinary science** are offered jointly with the Kansas State University College of Veterinary Medicine or any other accredited college or school of veterinary medicine. These two programs permit CASNR animal science or veterinary science majors to receive a bachelor of science degree in agricultural sciences from UNL with a major 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 **range science major**.

**Peru State College.** A transfer program is available for students wanting to pursue a major leading to a bachelor of science degree in natural resources.

**University of Nebraska at Kearney.** Transfer programs are available for students pursuing majors leading to a bachelor of science degree in agricultural sciences or a bachelor of science degree in natural resources.

**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 major leading to a bachelor of science degree in agricultural sciences or bachelor of science degree in natural resources. 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 Assistant 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 major 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.

**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 majors 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 in agricultural sciences** or a **bachelor of science degree in natural resources** is excellent prelaw curriculum. There are no particular majors or courses students are advised to take to enhance their chances of admission to law school. Students should choose majors and courses that interest them. However, students should take many courses that require writing and difficult reading. 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 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 Student Judicial Affairs Office. 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. Maurice Baker, adviser in the Department of Agricultural Economics, 314D 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 major 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 major 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 in agricultural sciences. Students may also complete preveterinary prerequisites with a major in fisheries and wildlife or environmental studies leading to a bachelor of science degree in natural resources.

### **Requirements for Graduation**

The College grants the bachelor of science degree in agricultural sciences and the bachelor of science degree in natural resources. Students working toward a degree in agricultural sciences or natural resources 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.

### **Degree Audit (Senior Check)**

After accumulating at least 75 credit hours, each student is expected to request an analysis of graduation requirements. The degree audit forms are available in 103 Agricultural Hall. When completed, the request form is to be filed with the Dean's Office which forwards it to the Office of Registration and Records, 107 Canfield Administration Building, City Campus.

### **Application for a Degree**

Each student who expects to receive a diploma must file an Application for Degree in the Office of Registration and Records, 107 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 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 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; animal science; biochemistry; biological systems engineering; biometry; entomology; food science and technology; horticulture; plant pathology; veterinary and biomedical sciences; School of Natural Resource Sciences; the center for biological chemistry; and in the interdepartmental area of nutrition.

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 Teacher's College); School of Natural Resource Sciences (agricultural meteorology and forestry, fisheries and wildlife); agronomy; animal science; biological systems engineering/agricultural engineering; biometry; entomology; food science and technology; horticulture; plant pathology (offered jointly with the School of Biological Sciences); veterinary and biomedical sciences (offered jointly with UNMC); 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 bachelor of science (BS) degrees are offered in both agricultural sciences and natural resources through the College of Agricultural Sciences and Natural Resources.

Undergraduate students can combine their major 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 majors, see "Dual Degrees from the College of Agricultural Sciences and Natural Resources" on page 55, "Dual Degrees from CASNR and Other UNL Colleges" on page 55, and "Multiple Majors" on page 56.

**Elective Credit**

Not more than 8 hours of elective credit in each of the following areas—art; health, physical education and recreation (basic instruction [activities] and athletic practice courses); music; religion; vocational and adult education—can be applied toward a degree. For students taking a minor in teaching one of these subjects, exceptions will be made. A maximum of 12 hours of military science credit beyond the 4 hours for basic military science, naval science, and aerospace studies will be permitted toward meeting degree requirements.

Following is a list of the majors and options leading to a **bachelor of science degree in agricultural sciences and natural resources**, 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.

**Agricultural Sciences Majors****Agribusiness**

Jeffrey Royer  
102 Filley Hall  
*Offered jointly with College of Business Administration*

**Agricultural Economics**

Jeffrey Royer  
102 Filley Hall  
*Options:*  
Agricultural Communications  
Farm and Ranch Management  
General

**Agricultural Education**

Earl Russell  
300 Agricultural Hall  
*Options:*  
Nonteaching  
Teaching

**Agricultural Journalism**

James Randall  
108 Agricultural Communications Building  
*Area of Emphasis:*  
Advertising  
Broadcasting  
News-editorial

**Agronomy**

Ken Cassman  
279D Plant Sciences  
*Options:*  
Business  
Integrated Crop Management  
Science

**Animal Science**

Donald Beerman  
C203 Animal Science  
*Specializations:*  
Business  
Meat Science  
Production/Management  
Range Livestock Production Science

**Biochemistry**

Bob Klucas  
N200 Beadle Center  
*Offered jointly with the College of Arts and Sciences*

**Crop Protection**

Z B Mayo, James Partridge, David Mortensen  
Crop Protection Committee  
203 Plant Industry  
*Options:*

Entomology  
Plant Pathology  
Weed Science

**Diversified Agricultural Studies**

Jack L. Schinstock  
103 Agricultural Hall

**Food Science and Technology**

Stephen Taylor  
143 Filley Hall  
*Options:*  
Business  
Food Service/Nutrition  
International  
Science  
Technology

**Grazing Livestock Systems**

Lowell Moser  
353 Kiem Hall

**Horticulture**

Dave Lewis  
377 Plant Sciences  
*Options:*  
Horticulture Business  
Horticulture Communications  
Horticulture Production  
Horticulture Science  
Landscape Design  
Turfgrass

**Mechanized Systems Management**

Glenn Hoffman  
223 L.W. Chase Hall  
*Options:*  
Agricultural Operations  
Mechanization Marketing  
Mechanization Science  
Processing Operations

**Veterinary Science**

John Schmitz  
120 Basic Veterinary Science  
*Options:*  
Biomedical Sciences  
Veterinary Medicine

**Veterinary Technologist**

John Schmitz  
120 Basic Veterinary Science  
*Options:*  
Business  
Science  
Veterinary Science  
*Offered jointly with the Nebraska College of Technical Agriculture*

A major in veterinary science leading to a bachelor of science degree in agricultural sciences is available for students entering veterinary medicine school. Interested students should contact the department head.

**Natural Resources Majors****Environmental Studies**

Bob Kuzelka  
103 Natural Resources Hall  
*Offered jointly with the College of Arts and Sciences*

**Fisheries and Wildlife**

Blaine Blad  
102 Plant Industry

**Natural Resource and Environmental Economics**

Jeffrey Royer  
102 Filley Hall

**Rangeland Ecosystems**

Blaine Blad  
102 Plant Industry

**Soil Science**

Ken Cassman  
279D Plant Sciences

**Water Science**

Glenn Hoffman  
223 L.W. Chase Hall

**Pre-Professional Programs****Preforestry**

Blaine Blad  
102 Plant Industry

**Prelaw**

Maurice Baker  
312D Filley Hall

**Preveterinary Medicine**

John Schmitz  
102 Basic Veterinary Science

**Related Majors****Agricultural Engineering**

Glenn Hoffman  
223 L.W. Chase Hall  
*Offered jointly with the College of Engineering and Technology*

**Biological Systems Engineering**

Glenn Hoffman  
223 L.W. Chase Hall  
*Offered jointly with the College of Engineering and Technology*

**Other Academic Programs****Dual Degrees**

Jack Schinstock  
103 Agricultural Hall

**Honors Program**

Jim Partridge  
406 Plant Science  
*The Honors Program is offered through the University Honors Program*

**Minors**

Jack Schinstock  
103 Agricultural Hall  
(See "Minors" on page 60.)

**Multiple Majors**

Jack Schinstock  
103 Agricultural Hall

**Teaching Certificate**

Earl Russell  
300 Agricultural Hall

**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 majors 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 major part of AGRI 299H, the student will identify a faculty thesis mentor and write a thesis proposal with their faculty thesis mentor. Because of the breadth of majors in agriculture sciences and natural resources, the program relies on faculty mentors within individual majors 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. Partridge.

The Agricultural Research Division supports a competitive grants program to assist the College's Honors Program students in the pursuit of their mentored theses.

For more information about the University Honors Program, contact:

Dr. James Partridge  
University of Nebraska-Lincoln  
406 Plant Science  
PO Box 830722  
Lincoln, NE 68583-0722  
(402) 472-3160  
(800) 742-8800 Ext 2541

Also see "Honors Convocation Recognition Requirements" on page 12 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 321.

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 major adviser, the chair of the teacher education committee in Agricultural Leadership, Education and Communication, or the Director of Student Services within Teachers College, 105 Henzlik Hall, for details.

Endorsement in agricultural education may be obtained through completion of teaching option requirements (page 65) offered in the Department of Agricultural Leadership, Educa-

tion 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 education 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 skills test.

**Other CASNR Departments Offering Courses**

Biometry  
Entomology  
Plant Pathology

**College Requirements**

The minimum requirements of CASNR reflect the common core of courses that apply to students pursuing degrees in **either** agricultural sciences or natural resources:

	Hours
<b>College Integrative Course</b> .....	<b>3</b>
AGRI/NRES 103 (Food, Agriculture & Natural Resource Systems) .....	3
<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	<b>5</b>
<i>May include statistics and PHIL 211 Intro to Modern Logic.</i>	

**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>Communication</b> .....	<b>9</b>
Written Communication .....	3
<i>Select from: ENGL 150, 151, 254, 255; CURR 120, or JGEN 200, 300</i>	
Oral Communication .....	3
<i>Select from: COMM 109, 209, 212, or 311</i>	
Communication and Interpersonal Skills electives .....	3
<i>Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102, 200, 300; COMM 109, 209, 212, or 311</i>	
<b>Natural Sciences</b> .....	<b>12-13</b>
Biological Sciences .....	4
CHEM 109 (General Chemistry I) .....	4
PHYS 141 (Elementary General Physics) (5 cr) .....	4-5
<i>or PHYS 151 (Elements of Physics) (4 cr)</i>	
<i>or PHYS 211 (General Physics) (4 cr)</i>	
<i>or MSYM 109 (Physical Principles in Agriculture) (4 cr)</i>	

<b>Humanities and Social Sciences</b> .....	<b>21</b>
ECON 211 or 212 or AECN 141 .....	3
Essential Studies .....	15
<i>Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.</i>	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
<i>To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.</i>	

**Major Requirements and Electives** ..... **77-78**  
Capstone Course ..... 3

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

**Minimum Credit Hours Required for Graduation** ..... **128****International Focus Requirement**

The College places a high priority on the development of a cosmopolitan view of the world for our students. Appreciating the diverse cultures in the global community, understanding its complexity and our interdependence with it is essential to the success of CASNR students. The College offers several study abroad opportunities for students as well as requiring that each student take at least one course that has an international focus. A course used to fulfill the International Focus Requirement can also be used to fulfill other degree requirements. Students may select courses from the following list or any courses listed in the "International Affairs Minor (Agricultural Emphasis)" on page 61). Domestic students who study abroad and international students attending UNL have satisfied the International Focus Requirement.

**CASNR Courses**

AGRI 292. Intro to Global Agricultural & Natural Resources Issues
AGRI 310. Study Tours in International Agriculture
AECN 346. World Food Economics
AECN 367. Agricultural Development in Developing Countries
AECN 411. Agricultural Marketing in a Multinational Environment
AECN 420. International Food & Agricultural Trade

**Arts and Sciences Courses**

ANTH 212. Intro to Cultural Anthropology
ANTH 362. Peoples & Cultures of Africa
ANTH 366. Peoples & Cultures of East Asia
AHIS 101. Art History from Earliest Times to Medieval
AHIS 102. Art History from Renaissance to Modern
AHIS 256. Latin American Art
AHIS 261. Oriental Art: India, Ceylon, Java, Japan
AHIS 262. Oriental Art: China, Korea, Southeast Asia
ECON 321. Intro to International Economics
ECON 322. Intro to Development Economics
ECON 323. The Economic Development of Latin America
ECON 388. Comparative Economic Systems
ENGL 243B. Literature of India
ENGL 244A. Into to African Literatures
ENGL 244D. African-Caribbean Literature
GEOG 120. Introductory Economic Geography
GEOG 140. Introductory Human Geography
GEOG 242. The Geographical Background to World Affairs
GEOG 272. Geography of World Regions
GEOG 375. Geography of Asia
GEOG 378. Geography of Latin America
HIST 150. African Culture & Civilization
HIST 171. Latin American Culture & Civilization
HIST 181. Intro to East Asian Civilization
HIST 218. History of Islam
HIST 271. The Latin American Colonies
HIST 272. The Latin American Republics
HIST 282. Modern East Asia
MODL 234D. Major Themes in World Literature
<i>Any modern language course beyond 101/102</i>

MUNM 277. Art Music in the Western World  
 MUNM 280. World music  
 PHIL 232. History of Philosophy (Modern)  
 POLS 104. Comparative Politics  
 POLS 160. International Relations I  
 POLS 260. Problems in International Relations  
 POLS 272. Non-western Politics  
 POLS 273. Russian Politics  
 POLS 274. Developmental Politics in East Asia  
 POLS 277. Latin American Politics  
 POLS 361. The United Nations & World Politics  
 POLS 373. Eastern European Government & Politics  
 POLS 376. Chinese Politics

## Capstone Course Requirement

A capstone course is required for each CASNR major. 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 major'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 major. Capstone courses external to the major do not meet the intent of the requirement.

## Comprehensive Education Program Requirements

The "Comprehensive Education Program" on page 13 is required of all undergraduate students in the University. It is comprised of four components: Information Discovery and Retrieval, Essential Studies [ES], Integrative Studies [IS] and Co-Curricular Experience.

### Information Discovery and Retrieval

All CASNR students entering the College with less than 52 credit hours are required to take AGRI/NRES 103 (Food, Agriculture and Natural Resource Systems). This course incorporates LIBR 110 (Introduction to Library Research) which fulfills the Information Discovery and Retrieval requirement. Students transferring from other institutions with more than 52 credit hours are encouraged to visit with their adviser to assess their skills in Information Discovery and Retrieval.

### Essential Studies

A student will take nine courses (generally 27 credit hours) in eight different areas (A-H). Two courses are required in Area C - Human Behavior, Culture and Social Organization. The College minimum requirements for a degree include courses in Communication (A), Math and Statistics (B), Human Behavior, Culture and Social Organization (C), and Science and Technology (D). Students in CASNR must select elective courses listed in the College Minimum Requirements under Humanities and Social Sciences to fulfill the remaining ES requirements in:

- Human Behavior, Culture and Social Organization (C)
- Historical Studies (E)
- Humanities (F)
- Arts (G)
- Race, Ethnicity and Gender (H)

The courses listed as fulfilling the Essential Studies [ES] requirements for CASNR students (courses identified with '•' in column A) have been reviewed by the faculty and have been selected because they contribute substantially to the objectives of a general liberal education. Even though a course may appear in more than one Essential Studies area, a student may use a course in only **ONE** Essential Studies Area. Courses taken to meet College ES requirements must be taken from this list.

### Transfer of Essential Studies Courses from Other UNL Colleges

The College will accept (directly or by substitution) for degree credit towards the general education requirements courses taken by students in fulfillment of ES requirement in any other college within UNL.

### Integrative Studies

Courses approved as Integrative Studies are selected based on the way the course is taught. Each IS course will incorporate to the extent possible writing; speaking; critical thinking; analysis of controversies; exploration of assumptions; inquiry through course content into the origins, bases and consequences of intellectual bias; and the consideration of human. Each student is required to take ten courses that have been designated as Integrative Studies (list on page 23). Integrative Studies courses can be taken from any university department (including the major) with a limit of three from one department. Out of the ten IS courses, at least one must be a 200-level course, one a 300-level and one a 400-level course. Many IS courses will also be ES courses so that students can fulfill the requirements simultaneously.

### Transfer of Integrative Studies Courses

Since IS courses are unique to the instructional methodology and unique to UNL, courses from other institutions cannot be used to fulfill the IS requirement. However, students transferring to CASNR will have their requirement proportionately reduced based on the number of credit hours transferred that apply towards their degree.

### Co-Curricular

Students will receive a co-curricular package outlining opportunities for satisfying this requirement. This component of the Comprehensive Education program is also integrated into the CASNR 'Ensuring Your Future' program.

## 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 .....	62
Agricultural Economics .....	63
Agronomy .....	69
Animal Science .....	71
Biochemistry .....	74
Community Economics and Social Dynamics .....	64
Diversified Agricultural Studies .....	77, 95
Environmental Communications .....	66
Environmental Studies .....	92
Food Science and Technology .....	79
Forestry, Fisheries and Wildlife .....	93
Horticulture .....	80
Insect Science .....	78
Integrated Pest Management .....	77
International Affairs .....	61
Landscape Architecture .....	83
Leadership and Communication .....	66
Mechanized Systems Management .....	85
Natural Resource Economics .....	95
Range Science .....	96
Soil Science .....	97
Water Science .....	98

**Filing for a Minor.** Students wishing to declare a minor, must file the "Application for a Minor" form with the Dean's Office prior to filing for graduation.

**Minors in Other Colleges.** A student with a major leading to a bachelor of science degree in agricultural sciences or natural resources 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 program for the minor to the CASNR Dean's Office prior to the deadline for submitting the application for graduation.

Upon approval, the program will be forwarded to the director of Registration and Records, with a copy supplied to the College of Arts and Sciences. The minor will be recorded on the student's transcript.

## International Affairs Minor (Agricultural Emphasis)

**Coordinator:** Professor Jack Schinstock, 103

Agriculture Hall

**Professors:** Anderson (agricultural economics),  
Mason (agronomy), Ortega (sociology)

A minor in international affairs, with an agricultural emphasis, affords the basis for students to build an international emphasis in their course of study through a unified program of special courses in agricultural sciences and natural resources, arts and sciences, and business administration. The program is supervised by the Area Studies Committee in International Affairs and all programs of study must gain approval of the committee. Students in CASNR wishing to pursue the minor should consult with the program coordinator in 103 Agricultural Hall.

The international affairs minor is designed for students who seek a broad understanding of the nature and role of agriculture in the integrated world economy and of the implications of world events for agriculture 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 build their program from courses organized around three areas: 1) a group of international courses in CASNR, 2) complementary groupings of international courses offered in arts and sciences and business administration, and 3) optional but highly recommended foreign language instruction or experience as a base for building international communications skills. At least five hours of basic language courses are strongly recommended.

The overall requirement is 18 credit hours, of which at least 6 hours must come from Group 1, and at least 12 hours from Groups 2 through 4. Not more than 9 hours of credit toward the minor may come from any one department, at least 6 hours must be at the 300 level or above.

### Course Groupings

The course groupings which follow have been selected for their special relevance in complementing a primary course of study in agricultural sciences and natural resources:

#### Group 1. Agricultural Sciences

AGRI 292. Intro to Global Agricultural & Natural Resources Issues  
AGRI 310. Study Tours in International Agriculture  
AECN 346. World Food Economics  
AECN 367. Agricultural Development in Developing Countries  
AECN 411. Agricultural Marketing in a Multinational Environment  
AECN 420. International Food & Agricultural Trade

#### Group 2. Economics/Management/Marketing

ECON 321. Intro to International Economics  
ECON 322. Intro to Development Economics  
ECON 323. The Economic Development of Latin America  
ECON 421. International Trade  
ECON 422. International Finance

ECON 423. Economics of the Less-Developed Countries  
ECON 424. National Economic Plans in Less-Developed Countries  
ECON 466. Pro-seminar in International Relations I  
ECON 467. Pro-seminar in International Relations II  
ECON 488. The Economics of Socialism  
MNGT 439. International Management  
MRKT 453. International Marketing

#### Group 3. Anthropology/Educational Psychology/Geography/English

ANTH 261. Conflict & Conflict Resolution  
ANTH 353. Anthropology of War  
ANTH 362. Peoples & Cultures of Africa  
ANTH 365. Ethnology of Europe  
ANTH 366. Peoples & Cultures of East Asia  
ANTH 474. Applied & Development Anthropology  
ANTH 479. Pro-seminar in International Relations  
ANTH 498. Advanced Current Topics in Anthropology  
BRDC 465. International Broadcasting  
EDPS 434. Comparative Education  
ENGL 210P. Literature of War & Peace  
GEOG 242. The Geographical Background to World Affairs  
GEOG 272. Geography of World Regions  
GEOG 375. Geography of Asia  
GEOG 378. Geography of Latin America  
GEOG 447. Political Geography  
GEOG 448. Pro-seminar in International Relations  
GEOG 478. Pro-seminar in Latin American Studies

#### Group 4. History/Political Science

HIST 303. United States Military History, 1607  
HIST 304. United States Military History Since 1917  
HIST 330. Contemporary Europe  
HIST 336. The British Empire & Commonwealth  
HIST 337. War & Peace in Europe: 1789  
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 426. European Diplomats & Diplomacy  
HIST 471. Latin America & the Outside World  
HIST 479. Pro-seminar in International Relations  
HIST 485. Africa Since 1800  
POLS 160. International Relations I  
POLS 260. Problems in International Relations  
POLS 261. Conflict & Conflict Resolution (ANTH, PSYC, SOCI 261)  
POLS 360. International Relations II  
POLS 361. The United Nations & World Politics  
POLS 371. Politics & Policymaking in the European Common Market  
POLS 450. United States Foreign Policy I: Making Foreign Policy  
POLS 451. US Foreign Policy II: Conduct of US Foreign Policy in the World  
POLS 459. International Political Economy  
POLS 462. National Security Organization & Policy-making  
POLS 463. Soviet Union in World Affairs  
POLS 464. Diplomacy in East Asia  
POLS 465. The United States & Latin America  
POLS 466. Pro-seminar in International Relations  
POLS 468. Organizing World Order  
POLS 469. International Law  
POLS 470. International Human Rights.  
POLS 471. Problems in International Law & Organization

The foregoing program of study satisfies the requirement for a minor in international affairs, a minor which places special emphasis on cross-national and cross-regional comparatives.

Students wishing to emphasize a particular geographic area should refer to the course listings in the Arts and Sciences Area Studies Minors as a guide toward selecting courses beyond the 18-hour minimum for the minor. A narrower geographic emphasis can also be obtained by directly pursuing a minor in one of these area studies; these, too, are available under Plan A to majors in agricultural sciences and natural resources. The procedure for declaring a minor in arts and sciences (including those in international affairs and the various area studies) is described in "Minors" on page 60.

## Degree Requirements for Bachelor of Science in Agricultural Sciences

The degree requirements apply to every major leading to a bachelor of science degree in agricultural sciences and reflect the philosophy that there is a common foundation of knowledge essential for professionals in agricultural sciences. The following courses should be completed early because they provide knowledge of the basic principles for more specialized courses. The curriculum of each major incorporates the minimum requirements for the bachelor of science degree in agricultural sciences.

The specific requirements for each major are listed under each major.

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 major is strongly encouraged in order to enhance the timely completion of the student's program.

	Hours
<b>AGRI 103 Food, Agriculture &amp; Natural Resource Systems</b> .....	3
<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	5
May include statistics and PHIL 211 Intro to Modern Logic	
<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>Natural Sciences</b> .....	12-13
Biological Sciences.....	4
CHEM 109 General Chemistry I .....	4
PHYS 141 Elementary General Physics (5 cr) ....	4-5
or PHYS 151 Elements of Physics (4 cr)	
or PHYS 211 General Physics (4 cr)	
or MSYM 109 Physical Principles in Agriculture (4 cr)	

<b>Communications*</b> .....	9
Written Communication.....	3
Oral Communication .....	3
Communication and Interpersonal Skills Electives .	3
<b>Humanities and Social Sciences</b> .....	21
ECON 211 or 212 or AECN 141 .....	3
Essential Studies .....	15
Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.	
<b>Required Credit Hours in Minimum Requirements</b> .....	50
<b>Major Requirements and Electives</b> .....	77-78
Capstone Course (specified by major) (3 cr)	

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

**Total Credit Hours Required for Graduation.....** 128

\* For a listing of courses, see 'Communications' under "College Requirements" on page 59.

## Courses of Instruction (AGRI)

**[ES][IS] 103. Food, Agriculture and Natural Resource Systems** (LIBR 110A, NRES 103) (3 cr I, II) Lec 2, rct 1. *Library research skills are integrated with the course subject matter of AGRI 103. The library research skills are taught by library faculty using the LIBR 110 curriculum. It is designed to provide practical experience with libraries, their organization, tools and services, and to teach effective strategies for research and information retrieval. Students must pass the library skills portion, which is graded on a pass/no pass basis in order to pass the course.*

Agriculture and natural resources topics from the perspectives of the natural resource base, energy budget, the environment, and economic and societal aspects. Case studies address food production and processing systems plus other selected agro-ecological systems for their economic viability, ecological soundness, social responsibility, and scientific appropriateness.

**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.

**[IS] 292. Introduction to Global Agricultural and Natural Resources Issues** (3 cr II) Lec/rc. 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 I, II, III) Prereq: Permission. *P/N 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 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.

**388. Employment Seminar** (NRES 388) (1 cr I, II) *P/N only. Sophomore or junior standing in the College of Agricultural Sciences and Natural Resources recommended.*

Seminar to develop job-hunting skills as applied to the fields of agriculture and natural resources. How to go about the job-hunting process efficiently and effectively. Experiential in design. Students write resumes and letters of application, assess their own capabilities, research potential employers, and go through a mock interview.

**389. Agricultural Concerns Seminar** (1 cr II) Lec/disc 2. *P/N 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.

**415/815. Comparative Public Administration: Development Administration and Politics in the Third World** (POLS 415/815) (3 cr I) Lec. *At the undergraduate level can be used for humanities and social sciences only.*

The role that public bureaucracies play in the promotion of national economic development in Africa, Latin America, Asia, and the Caribbean. Concerns with the prospects and problems faced by developing nations as they endeavor to establish change-oriented administrations and on the administrative, institutional, and political barriers to their economic and social development. Concept of development management, the planning process, manpower planning and development, decentralization and extension administration, and local-level political/administrative relationships.

**496. Independent Study in Agricultural Sciences and Natural Resources** (NRES 496) (1-5 cr I, II, III) Prereq: Permission and advanced approval of the plan of work. Individual or group projects in activities such as research, literature review, extension of course work, or preparation of teaching materials under supervision and evaluation of a faculty member.

**810. Research Strategies in Agriculture** (1 cr I)

## Agribusiness

### Program Director: Professor Ron Hanson

Department of Agricultural Economics

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 majors must complete at least 15 credit hours of agricultural economics courses for a grade (not P/N).

### Hours

**College Integrative Course** ..... 3  
AGRI 103 Food, Agriculture & Natural Resource Systems ..... 3  
Capstone course requirement (3 cr) will be met by taking any agricultural economics 400-level capstone designated course.

**Mathematics and Analytical Skills** ..... 6-8  
Select from one of the following ..... 3-5

MATH 104 Calculus for Managerial & Social Sciences (3 cr)  
MATH 106 Analytical Geometry & Calculus I (5 cr)

Select from one of the following ..... 3  
BIOM 201 Intro to Biometry (3 cr)  
ECON 215 Statistics (3 cr)  
STAT 180 Elements of Statistics (3 cr)

**Communications** ..... 9  
Written Communication ..... 3  
Select from: ENGL 150, 151, 254, 255; Curr 120 or JGEN 200, 300

Oral Communication ..... 3  
Select from: COMM 109, 209, 212, or 311  
Communication and Interpersonal Skills elective ..... 3

Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; Curr 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212, or 311

**Natural Sciences** ..... 12-13

BIOS 101 and 101L General Biology & Lab ..... 4

CHEM 109 General Chemistry ..... 4

Physics ..... 4-5

Select from:  
MSYM 109 Physical Principles in Agriculture (4 cr)

PHYS 141 Elementary General Physics (5 cr)

PHYS 151 Elements of Physics (4 cr)

### Humanities and Social Sciences ..... 24

AECN 141 or ECON 212 ..... 3

ECON 211 ..... 3

Essential Studies ..... 15

Select one 3-credit course in each of the following five  
CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)

Human Behavior, Culture & Social Organization

Historical Studies

Humanities

Arts

Race, Ethnicity & Gender

Elective ..... 3

To be selected from lower level modern languages courses or from the historical studies, humanities, or arts categories.

### Major Requirements ..... 58

Agricultural Economics ..... 34

AECN 201 Farm & Ranch Management (4 cr)  
AECN 211 Principles of Agricultural Marketing or AECN 212 Introductory Agribusiness Marketing (3 cr)

AECN 256 Legal Aspects in Agriculture or BLAW 371 Legal Environment (3 cr)

AECN 316 Agribusiness Management (3 cr)  
AECN 452 Agricultural Finance or FINA 361 Finance (3 cr)

AECN Electives (300/400 level) (6 cr)

Capstone Course (3 cr)

Choose from the following:

AECN 401 Advanced Farm Management & Linear Programming (3 cr)

AECN 411 Agricultural Marketing in a Global Environment (3 cr)

AECN 420 International Food & Agricultural Trade (3 cr)

AECN 445 Agricultural & Natural Resource Policy (3 cr)

CASNR Electives ..... 9

AGRO 153 or any course 200 level or above (excluding Agricultural Economics)

Supporting Courses ..... 24

ACCT 201 Intro to Accounting I (3 cr)

ACCT 202 Intro to Accounting II (3 cr)

ECON 311 Intermediate Macroeconomics (3 cr)

MNGT 331 Operations & Resources Management or MNGT 245 Elementary Quantitative Methods or AECN 426 Intro to Operations Research/Econometric Methods or MNGT 350 Intro to Management Information Systems (3 cr each)

MNGT 360 Managing Behavior in Organizations or MNGT 361 Personnel/Human Resources Management (3 cr each)

MRKT 341 Marketing (3 cr)

CBA Electives (300 level or above) (6 cr)

### CROSS-CUTTING REQUIREMENTS

**International Block:** Twelve hours of course work with an international focus are required as part of the 128 hours required. One 3-hour course must be selected from Area 1 below. The remaining 9 hours can be selected from courses in any category. All international block courses may also count elsewhere in the student's program.

**Area 1.** All international focus courses as defined in this bulletin (see "International Affairs Minor (Agricultural Emphasis)" on page 61.)

**Area 2.** All courses offered by the Department of Modern Languages.

**Area 3.** Additional international-focus courses not in Areas 1 or 2: Refer to the 1999-2000 Agricultural Economics Undergraduate Student Handbook or see a department academic adviser.

**Computer Proficiency Requirement:** Proficiency at the AGRI 271 level, met by evidence from prior course work; from a proficiency exam; or by taking AGRI 271.

**Free Electives** ..... 13-16

**Credit Hours Required for Graduation.....** 128

## Agribusiness Minor

	Hours
ACCT 201 Introductory Accounting .....	3
AECN 201 Farm & Ranch Management .....	4
AECN 211 Principles of Agricultural Marketing or AECN 212 Introductory Agribusiness Mrkt.....	3
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 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

**Head: Professor Jeffrey Royer**, Department of Agricultural Economics

**Professors:** Aiken, Azzam, Baker, Conley, Hanson, Helmers, Johnson, Kendrick, Miller, Perrin, Peterson, Royer, Supalla, Turner

**Associate Professors:** Allen, Fulginiti, Pfeiffer

**Instructor:** Spilker

Students majoring in agricultural economics learn to apply economic and financial principles to the analysis of problems in agriculture, business, government, and other areas. The major offers students the opportunity to gain skills in planning, evaluation, and management that are useful in both private- and public-sector enterprises.

Agricultural economics majors must choose one of three available options (Farm and Ranch Management, Public Policy, or General) and must complete at least 15 credit hours of agricultural economics courses for a grade (not P/N).

	Hours
<b>College Integrative Course</b> .....	<b>3</b>
AGRI 103 Food, Agriculture & Natural Resource Systems.....	3
Capstone requirement (3 cr) will be met by taking any agricultural economics 400-level capstone designated course.	
<b>Mathematics and Analytical Skills</b> .....	<b>6-8</b>
Select from one of the following .....	3-5
MATH 104 Calculus for Managerial & Social Sciences (3 cr)	
MATH 106 Analytical Geometry & Calculus I (5 cr)	
Select from one of the following .....	3
ECON 215 Statistics (3 cr)	
BIOM 201 Intro to Biometry (3 cr)	
STAT 180 Elements of Statistics (3 cr)	
<b>Communications</b> .....	<b>9</b>
Written Communications .....	3
Select from: ENGL 150, 151, 254; CURR 120; JGEN 200, 300	
Oral Communication .....	3
Select from: COMM 109, 209, 212, or 311	
Communication and Interpersonal Skills elective....	3
Select from: ENGL 101, 102, 150, 151, 252, 253, 254; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212, or 311	
<b>Natural Sciences</b> .....	<b>12-13</b>
BIOS 101 and 101L General Biology .....	4
CHEM 109 General Chemistry.....	4
Physics.....	4-5
Select from:	
MSYM 109 Physical Principles in Agriculture (4 cr)	
PHYS 141 Elementary General Physics (5 cr)	
PHYS 151 Elements of Physics (4 cr)	

<b>Humanities and Social Sciences</b> .....	<b>24</b>
AECN 141 or ECON 212 .....	3
ECON 211.....	3
Essential Studies .....	15
Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the list- ing of ES/IS courses see "Essential Studies Program List" on page 14.)	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
To be selected from lower level modern languages courses or from the historical studies, humanities, or arts categories.	

<b>Major Requirements (including general requirements and requirements by option)</b>	<b>105-111</b>
<b>Free Electives</b> .....	<b>17-23</b>
<b>Total Hours for Graduation</b> .....	<b>128</b>

### CROSS-CUTTING REQUIREMENTS

**International Block:** Twelve hours of course work with an international focus are required as part of the 128 hours required. One 3-hour course must be selected from Area 1 below. The remaining 9 hours can be selected from courses in any category. All international block courses may also count elsewhere in the student's program.

Area 1. All international focus courses as defined in this bulletin (see "International Affairs Minor (Agricultural Emphasis)" on page 61.)

Area 2. All courses offered by the Department of Modern Languages.

Area 3. Additional international-focus courses not in Areas 1 or 2. Refer to the *1999-2000 Agricultural Economics Undergraduate Student Handbook* or see a Department academic adviser.

**Computer Proficiency Requirement:** Proficiency at the AGRI 271 level, met by evidence from prior course work; from a proficiency exam; or by taking AGRI 271.

## 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>Major Requirements</b> .....	<b>51</b>

Agricultural Economics .....	24
24 hours of agricultural economics, with 12 hours at the 300 level or above. Must include an agricultural economics designated capstone course, if not taken elsewhere in program of study.	

Agricultural Sciences and Natural Resources .....	12
12 hours CASNR electives (excluding agricultural economics), at least 9 hours at the 200 level or above including AGRO 153	

Supporting Courses .....	15
ACCT 201 Introductory Accounting I (3 cr) ACCT 202 Introductory Accounting II (3 cr) ECON 311 Intermediate Macroeconomics (3 cr)	

ECON 401 Advanced Farm Management & Linear Programming or AECN 426 Intro to Operations Research & Econometric Methods or MNGT 331 Operations & Resource Management or MNGT 350 Intro to Management Information Systems or MNGT 245 Elementary Quantitative Methods (3 cr each)	15
Agricultural Economics or CBA Elective (3 cr) (200 level or above)	

<b>Free Electives</b> .....	<b>20-23</b>
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## 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
<b>Major Requirements</b> .....	<b>51-53</b>

Agricultural Economics .....	28
AECN 201 Farm & Ranch Management (4 cr)	

AECN 201 Farm & Ranch Management (4 cr)	25
AECN 211 Principles of Agricultural Marketing or AECN 212 Intro to Agribusiness Marketing (3 cr)	

AECN 256 Legal Aspects in Agriculture or BLAW 371 Legal Environment (3 cr)	26
AECN 265 Resource & Environmental Economics I (3 cr)	

AECN 301 Farm Accounting, Analysis & Tax Management (3 cr)	27
AECN 401 Advanced Farm Management & Linear Programming (3 cr)	

AECN 452 Agricultural Finance or FINA 361 Finance (3 cr)	28
AECN 442 Agricultural Policy or AECN 420 International Food & Agricultural Trade or AECN 411 Agricultural Marketing in a Global Environment or AECN 445 Agricul- tural & Natural Resource Policy Analysis (3 cr)	

AECN 453 Appraisal of Farm Real Estate (3 cr)	29
Supporting Courses .....	12

ACCT 201 Introductory Accounting I (3 cr)	30
ACCT 202 Introductory Accounting II (3 cr)	

ECON 311 Intermediate Macroeconomics or ECON 312 Intermediate Microeconomics (3 cr)	31
MNGT 360 Managing Behavior in Organiza- tions or MNGT 361 Personnel/Human Resource Management or AECN 316 Agri- cultural Management (3 cr)	

Agricultural Production Sciences .....	11-13
ASCI 250 Animal Management (3 cr)	

AGRO 204 Resource-Efficient Crop Management (3 cr) or AGRO 240 Forage Crop & Range Management (4 cr)	32
Production Science Electives (5-6 hrs) (200 level or above from AGRI 200, agronomy, animal science, entomology, horticulture, mechanized systems management, plant pathology or veteri- nary science)	

<b>Free Electives</b> .....	<b>18-23</b>
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## 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
<b>Major Requirements</b> .....	<b>54</b>

Public Policy Economics .....	36
AECN 445 Agricultural & Natural Resource Policy Analysis (3 cr)	

One course selected from:	
AECN 442 Agricultural Policy (3 cr)	

AECN 442 Agricultural Policy (3 cr)	37
ECON 360 Competition & Public Policy (3 cr)	

ECON 371 Elements of Public Finance (3 cr)	38
ECON 472 Efficiency in Government (3 cr)	

One course selected from:	
AECN 256 Legal Aspects in Agriculture (3 cr)	

BLAW 371 Legal Environment (3 cr)	39
POLS 210 Intro to Public Administration (3 cr)	

POLS 436 Intro to Public Policy Analysis (3 cr)	40
POLS 417 Policy & Program Evaluation Research (3 cr)	

*Two courses selected from:*

- 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)

*Two courses selected from:*

- AECN 411 Agricultural Marketing in a Global Environment (3 cr)  
 AECN 420 International Food & Agricultural Trade (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)

*Two courses selected from:*

- 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 388 Comparative Economic Systems (3 cr)  
 ECON 423 Economy of the Less Developed Countries (3 cr)  
 ECON 424 National Economic Plans in Less Developed Countries (3 cr)  
 POLS 272 Politics of the Non-Western World (3 cr)  
 POLS 478 Pro-seminar in Latin American Studies (3 cr)  
 Agricultural Economics Electives (9 hrs)

Supporting Courses ..... 18

- ECON 311 Intermediate Macroeconomics (3 cr)  
 ECON 312 Intermediate Microeconomics (3 cr)

*One course selected from:*

- AECN 426 Intro to Operations Research & Econometric Methods (3 cr)  
 MNGT 245 Elementary Quantitative Methods (3 cr)  
 MNGT 331 Operations & Resource Management (3 cr)  
 MNGT 350 Intro to Management Information Systems (3 cr)  
 CASNR Electives (9 hrs)  
 (200 level or above including AGRO 153) from CASNR departments other than agricultural economics, agricultural sciences (except AGRI 200) and agricultural leadership, education and communication

**Free Electives ..... 17-20**

## Agricultural Communications Option

Students wishing to have this designation included on their transcript must meet the requirements as specified on the previous page plus all of the requirements of one other option in the department.

## Agricultural Economics Minor

	<b>Hours</b>
AECN 201 Farm & Ranch Management	4
AECN 211 Principles of Agricultural Marketing or AECN 212 Intro to Agribusiness 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

1. Capstone course.

## Community Economics and Social Dynamics Minor

	<b>Hours</b>
<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	3
or PUB ADMIN 8436/4430 (UNO) Mun. Administration	
<b>Additional Courses</b>	<b>6</b>
<i>Select two:</i>	
ANTH 212 Intro to Cultural Anthropology	3
CRPL 300 The Community & the Future	3
CRPL 400 Intro to Planning	3
CRPL 450 Social Planning & Policy	3
CRPL 480 Economic Development Planning	3
ECON 340 Intro to Urban-Regional Economics	3
ECON 371 Elements of Public Finance	3
POLS 436 Intro to Public Policy Analysis	3
PSYC 288 The Psychology of Social Behavior	3
SOCI 242 Urban Sociology	3
SOCI 446 Environmental Sociology	3
<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)

**[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.

**211. Principles of Agricultural Marketing** (MRKT 211) (3 cr I, II) Lec 3. Prereq: AECN 141 or ECON 210 or 212. Marketing principles and functions as applied to agricultural products and distribution channels. Topics: hedging, price theory, marketing channels and strategies, firm management, foreign trade, marketing policy.

**212. Introductory Agribusiness Marketing** (3 cr I) Prereq: AECN 141 or ECON 210 or 212. For students primarily interested in marketing/management positions in the agribusiness industry. Includes agricultural marketing throughout the food channel from producers of agricultural commodities to processors of food products and the final consumer. Presentation is by lecture, by case problems dealing with processors, food wholesaling, retailing and food service firms.

**256. Legal Aspects in Agriculture** (3 cr I, II) Lec 3. Prereq: Sophomore standing. 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] 265. Resource and Environmental Economics I** (3 cr I, II) Lec 3. Prereq: ECON 211 and 212 or AECN 141.

Introduction to resource economics and the role of such concepts in natural resource management. Exposure to 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 in a student-active learning environment.

**[ES] 276 [276x]. 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. Agricultural Business Management** (3 cr I, II) Lec 3. Prereq: AECN 141 (or ECON 210 or 211 and 212), AECN 211, and 3 hrs accounting. *It is recommended that at least one course in accounting be completed prior to registration for this course.* Advanced course in business management offered for students primarily interested in management positions in the grain, feed, fertilizer, farm petroleum, and related agricultural industries. Presentation is by lecture, a simulated business management exercise, and by case problems dealing with financial management, organizational structure and control, credit management, and pricing policy.

**[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 Resources and Environmental Law** (3 cr I) 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; range, forest and wildlife management; recreation and preservation; land use regulation; state and federal water rights law.

**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] 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. Exposure to the 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.

**397. Senior Seminar in Current Problems** (2 cr II)

Prereq: Senior standing, agricultural economics major. In-depth discussion and analysis of current issues and problems in agricultural economics.

**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. P/N 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** (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.

**[IS] 411. Agricultural Marketing in a Multinational Environment<sup>1</sup>** (3 cr II) Prereq: 9 hours in agricultural economics and/or economics, or permission. A systems approach to evaluating the effects of current domestic and international political and economic events on agricultural markets.

**416. Advanced Agribusiness Management** (3 cr II) Lec 2, lab 2. Prereq: AECN 316; FINA 361 or AECN 452; MNGT 360 or 361; ACCT 201 and 202.

Students integrate principles from accounting, finance, management, marketing, agricultural and general economics as they explore the managing of an agribusiness. Students role-play as team members to analyze the business, make decisions in some cases, and cope with a variety of internal and external situations reflecting reality. Oral and written communication skills are emphasized for reporting on the agribusiness.

**[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.

**426. Introduction to Operations Research and Econometric Methods** (3 cr II) Lec 3. Prereq: MATH 104 or equivalent.

Topics: linear programming, input/output analysis, risk and uncertainty, probability and strategy concepts, game theory, Markov Chain analyses, queuing theory, simulation, production and inventory control, and dynamic programming.

**[ES] 442/842. Agricultural Policy** (3 cr II) Prereq: 12 hrs economics or agricultural economics.

Examination of past and present policy programs and issues affecting the US agricultural sector. Emphasis on the process of establishing and evaluating past and present goals and programs.

**[IS] 445. Agricultural and Natural Resource Policy Analysis<sup>1</sup>** (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, including social benefit-cost analysis, are described and illustrated through applications to current agricultural and natural resource policy issues.

**452/852. Agricultural Finance** (3 cr 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.

**453/853. Appraisal of Farm Real Estate** (3 cr I) Lec 2, lab 2. Prereq: AECN 201, AGRO 153.

Valuation of farm real estate is 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 are developed in detail. Appraisal procedure is analyzed for such special purposes as farm loans, tax assessment, and condemnation.

**456/856. Environmental Law** (3 cr II, odd numbered years) Lec 3. Prereq: AECN 357 or permission.

Administrative law, risk assessment, environmental impact review, Clean Air Act, Clean Water Act, nonpoint source 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 and Natural Resources Law** (3 cr I, even numbered years) Lec 3. Prereq: AECN 357 or permission. Environmental impact review; public trust doctrine; state and federal mining, range, forestry and wildlife law and policy; recreation and preservation; 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** (3 cr I) Prereq: AECN 265 or equivalent; MATH 104 and one course in statistics; or permission. *Credit towards the advanced degree is not available for graduate students in economics or agricultural economics.*

Economics analysis of natural resource problems. Application of resource economics concepts and empirical tools to resource management problems. Public policy issues involving environmental quality, land and water management.

**467. Pro-seminar in International Relations I** (ANTH, HIST 479/879; ECON, POLS, SOCI 466/866; GEOG 448) (3 cr) Prereq: Senior standing and permission. *Open to students with an interest in international relations.* For course description, see POLS 466/866.

**499H. Honors Thesis** (3-6 cr 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. Structure and Efficiency of Agricultural Markets** (3 cr I) Lec 3. Prereq: AECN 211 and ECON 312.

**814. Demand and Price Analysis in Agriculture** (3-4 cr II) Lec 3. Prereq: AECN 822 and 873.

**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.

**820. International Agricultural Trade** (3 cr II) Lec 3. Prereq: ECON/AECN 873, ECON 312.

**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.

**841. Environmental Law** (LAW 641) (3 cr I) Lec 3.

**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.

**893. Law and Economics** (LAW 693) (3 cr II) Lec 3.

**896. Independent Study in Agricultural Economics** (1-5 cr each, max 5) 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: Professor E. Russell**, Department of Agricultural Leadership, Education and Communication

**Professors:** Barrett, Blezek, Etling, Rockwell

**Associate Professors:** Bell, Fritz, King, Parsons

**Assistant Professor:** Barbuto

**Instructor:** Moody

A major 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 major provides good preparation for work in agricultural extension, positions in foreign service, and agricultural educators in business and industry. Many of the students graduate with a dual major in agricultural education and another major in the College. Agricultural education majors may elect to follow the teaching option or the nonteaching 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 (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 certificate requirements, along with a recommendation by the Department of Agricultural Leadership, Education and Communication, warrants issuance of 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 59 for the teaching certificate requirements.

Students in other agricultural majors may qualify based upon meeting the teaching certificate requirements.

## Major Requirements

### Teaching Option

	Hours
<b>College Integrative Courses</b> .....	15
AGRI 103 Food, Agriculture & Natural Resource Systems .....	3
Capstone Course: ALEC 431 <sup>1</sup> .....	12
<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	5
<i>Recommended:</i>	
MATH 102 .....	2
MATH 180, EDPS 459 or BIOM 201 .....	3
<b>Communication</b> .....	9
JGEN 200 or 300 (written) .....	3
COMM 209 or 212 or 311 (oral) .....	3
ALEC 102 (communication & interpersonal skills) .....	3
<b>Natural Sciences</b> .....	12-13
Biological Sciences .....	4
CHEM 109 .....	4
PHYS 141 or MSYM 109 .....	4-5
<b>Humanities and Social Sciences</b> .....	21
ECON 211, 212 or AECN 141 .....	3
EDPS 362 .....	3
SOCI 217 or CURR 330 .....	3
Essential Studies .....	12

Select one 3-credit course in each of the following

CASNR Essential Studies categories: Areas C, E, F and G (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)

Human Behavior, Culture & Social Organization

Humanities

Historical Studies

Arts

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

<b>Agricultural Science</b> .....	31
Plant Science .....	6
Animal Science .....	6
Agricultural Economics .....	9
Mechanized Systems Management (excluding MSYM 109) .....	6
Agricultural Science Electives .....	4

<b>Leadership and Education</b> .....	<b>28</b>
ALEC 134 Intro to Agricultural Education .....	2
ALEC 134L Early Field Experience in Agricultural Education.....	1
ALEC 202 Leadership & Development in Small Groups & Teams .....	3
ALEC 234 Planning Leadership & Experience Programs.....	3
ALEC 305 Presentation Strategies for Agricultural Audiences.....	3
ALEC 308 Lab Instruction & Management .....	3
ALEC 405 Teaching Methods .....	3
ALEC 405L Methods of Instruction Lab.....	1
ALEC 413 Program Development .....	3
ALEC 494 Undergraduate Seminar in Agricultural Education.....	1
SPED 401B Accommodating Exceptional Learners in the Secondary Classroom.....	3
<b>Free Electives</b> .....	<b>7-8</b>
<b>Minimum Credit Hours Required for Graduation</b> .....	<b>128</b>

### Biology Endorsement Requirements

If the student desires to qualify for both a field endorsement in agricultural education and a subject endorsement in biology, the following course work should be integrated into the teaching option.

### Required Courses (24-25 hrs)

	<b>Hours</b>
BIOS 101/101L & either BIOS 109 or BIOS 112.....	8
CHEM 109.....	4
Physics.....	4-5
Select from PHYS 141, 151 or MSYM 109.	
ASCI 240 Anatomy & Physiology of Domestic Animals.....	4
Genetics .....	4
Select from AGRO 315 or BIOS 301.	

### Elective Courses (20 hrs)

Select at least one of the suggested courses from each of the following categories. No more than 8 hours may be selected from 100-level courses. A course may only be used once toward fulfilling the total 20 hour requirement.

#### Ecology

NRES 311 Wildlife Ecology & Management (3 hrs)

#### Growth and Development

AGRO 131 Crop Science (4 hrs)

AGRO 204 Field Crop Production (3 hrs)

AGRO 240 Forage Crop & Range Management (4 hrs)

ASCI 320 Animal Nutrition & Feeding (3 hrs)

ASCI 340 Animal Adaptation, Growth & Lactation (3 hrs)

#### Laboratory and Field Experiences with Living Organisms

ENTO 109 Beekeeping (2 hrs)

HORT 221 Plant Propagation (3 hrs)

Animal Science (any of the 400-level species specific management courses) (3 hrs)

#### Organismal Behavior

ASCI 250 Animal Management (3 hrs)

ASCI 341 Physiology & Management of Reproduction (3 hrs)

ENTO 115 (BIOS 115) General & Applied Entomology (3 hrs)

NRES 211 Wildlife Biology & Conservation (3 hrs)

#### Systemics

AGRO 153 Soil Resources (4 hrs)

PLPT 369 (BIOS 369) Intro Plant Pathology (3 hrs)

VBMS 303 Principles & Prevention of Livestock Disease (3 hrs)

<b>Taxonomy</b> .....	
ENTO 115 (BIOS 115) General & Applied Entomology (3 hrs)	
HORT 212 (NRES 212) Landscape Plants I (3 hrs)	
HORT 213 (NRES 213) Landscape Plants II (3 hrs)	

**Student Teaching.** Students seeking dual endorsement will be required to complete their student teaching experience in a school where they would spend teaching time in both biology and agriculture.

### Nonteaching Option

	<b>Hours</b>
<b>College Integrative Courses</b> .....	<b>8</b>
AGRI 103 Food, Agriculture & Natural Resource Systems.....	3
Capstone Course: ALEC 495.....	5

<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	<b>5</b>
<i>Recommended:</i>	

MATH 102 .....	2
MATH 180, EDPS 459 or BIOM 201 .....	3

<b>Communication</b> .....	<b>9</b>
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ALEC 102 (communication & interpersonal skills).....	3
JGEN 200 or 300 (written) .....	3
COMM 209 or 212 or 311 (oral).....	3

<b>Natural Sciences</b> .....	<b>12-13</b>
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Biological Sciences .....	4
CHEM 109.....	4
PHYS 141 or MSYM 109.....	4-5

<b>Humanities and Social Sciences</b> .....	<b>21</b>
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ECON 211 or 212 or AECN 141.....	3
Essential Studies.....	15

Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)

Human Behavior, Culture & Social Organization  
Historical Studies  
Humanities  
Arts  
Race, Ethnicity & Gender

Elective .....	2-3
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*To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories.*

<b>Major Requirements and Electives</b> .....	<b>70</b>
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**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

<b>Agricultural Science</b> .....	<b>31</b>
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Plant Science .....	6
Animal Science .....	6
Agricultural Economics (including AECN 316 and 452).....	12

Agricultural Science Electives.....	7
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<b>Leadership, Education and Management</b> .....	<b>22</b>
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ALEC 134 Intro to Agricultural Education .....	2
ALEC 134L Early Field Experiences in Agricultural Education.....	1

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 494 Undergraduate Seminar in Agricultural Education.....	1

MRKT 341 Marketing .....	3
MRKT 347 Promotional Strategy.....	3
VAED 483 Human Resource Development.....	3

<b>Free Electives</b> .....	<b>20</b>
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<b>Minimum Credit Hours Required for Graduation</b> .....	<b>128</b>
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### 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 Resource Sciences. 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:

	<b>Hours</b>
JGEN 321 Citizen & Mass Media .....	3
or ALEC 305 Presentation Strategies for Agricultural Audiences (3 cr)	
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)	
NRES 423/823 Integrated Resource Management...3	
ALEC/NRES 410/810 Environmental Leadership: A Historical & Ethical Perspective.....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.

### Leadership and Communication Minor

Two minor programs in leadership and communication are available through the Department of Agricultural Leadership, Education and Communication. Combining a leadership and communication minor with any CASNR major strengthens students "employability" base by making them competent technical professionals who are also strong leaders, effective communicators. One minor totals 18 hours comprised of upper and lower division courses as follows:

	<b>Hours</b>
ALEC 102 Interpersonal Skills for Leadership .....	3
ALEC 202 Leadership Development in Small Groups & Teams .....	3
JGEN 300 Technical Communication II .....	3
ALEC 305 Presentation Strategies for Agricultural Audiences.....	3
<i>A minimum of 6 hrs from the following list of courses .....</i>	<i>6</i>
ALEC 302 Dynamics of Effective Leadership in Organizations (3 cr)	
ALEC 337 Instructional Internship in Leadership Development (3 cr)	
ALEC 380 The Dynamics of Agricultural Journalism (3 cr)	
ALEC 388 Ethics in Agriculture & Natural Resources (3 cr)	
JGEN 200 Technical Communication I (3 cr)	

A second minor is comprised of only upper division courses and totals 12 hours as follows:

	Hours
IGEN 300 Technical Communication II	3
ALEC 302 Dynamics of Effective Leadership in Organizations	3
ALEC 305 Presentation Strategies for Agricultural Audiences	3
<i>Select one of the following courses:</i>	3
ALEC 337 Instructional Internship in Leadership Development (3 cr)	
ALEC 380 The Dynamics of Agricultural Journalism (3 cr)	
ALEC 388 Ethics in Agriculture & Natural Resources (3 cr)	

Students who wish to minor in leadership and communication must first be assigned an adviser by the head of the Department of Agricultural Leadership, Education and Communication. The student's program of study 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.

## Courses of Instruction (ALEC)

### [ES][IS] 102. Interpersonal Skills for Leadership (3 cr I, II) Lec/act.

Introduction to the principles and practices of positive interpersonal relationships for leadership development. Emphasis on self-awareness, awareness of others, effective interpersonal communication, and the building of trust relationships as a basis for understanding and developing leadership. An experiential approach, including field projects and a supervised community service project.

### 134. Introduction to Agricultural Education (2 cr I) Lec/act.

Orientation course exploring the career opportunities available in the delivery system of agricultural education. Specific focus on agribusiness, industry training positions, secondary agriscience instruction, extension education, and international applications for agricultural education.

### 134L. Early Field Experience in Agricultural Education (1 cr II) *Required of all agricultural education majors.*

Laboratory for early field experience in observing and/or performance of professional skills which are utilized in agricultural education, extension education, and/or agribusiness.

### 189H. University Honors Seminar (3 cr I) Prereq: Good standing in the University Honors Program.

Introduction to views of leadership based on readings of classical texts in literature, drama, biography and film.

### [ES][IS] 202. Leadership Development in Small Groups and Teams (3 cr I, II) Lec/act.

Leadership and followership skills in small groups and teams. Leadership dynamics which make team leaders and members influential and satisfied in both informal and work group settings. Leadership from the perspective of student practical experience. A shadowing experience and simulation exercise.

### 233. Extension Education (2 cr I) Lec/act.

Overview of extension education within the community, state, national, and international settings. Emphasis on principles and procedures of developing and conducting user-driven, research-based extension programs, along with the study of extension's relationship to other public and private agencies.

### 234. Planning Leadership and Experience Programs (3 cr II) Lec 2/lab 3. Prereq: Sophomore standing and ALEC 134 and/or 134L.

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.

### 237. Introduction to Human Relations in Education (EDPS 237) (2 cr)

For course description, see EDPS 237.

### [ES][IS] 302. Dynamics of Effective Leadership in Organizations (3 cr I, II)

Principle and process of effective leadership in complex organizations of society and commerce. Develops an understanding of the dynamic interactions of personal characteristics, technical skills, interpersonal influence, commitment, goals, and power.

### 305. Presentation Strategies for Agricultural Audiences (3 cr I, II) Lec/act. Prereq: IGEN 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.

### 311. Supervised Field Experiences (2-5 cr 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 I, II, III) Act 3. Prereq: Permission.

A structured professional and personal development experience. Small group facilitation and instructional assistance in leadership development courses.

### 380. The Dynamics of Agricultural Journalism (3 cr II) Lec 3. Prereq: Junior/senior standing in agricultural journalism or permission. *Offered spring semester of odd-numbered calendar years.*

Juniors and seniors synthesize, integrate, and expand their knowledge from previous undergraduate courses and apply it to the field of agricultural journalism.

### [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.

### 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)

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.

### [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.

### [ES][IS] 410/810. Environmental Leadership: A Historical and Ethical Perspective (3 cr) Lec.

Chronological study of major figures in conservation and ecology that emphasizes historical and ethical development and relationships. Primary focus on the Great Plains.

### 412/812. Multimedia Applications for Education and Training (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. Projects 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/act. Prereq: Junior/senior standing. *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.

### 420/820. Improvement of Instructional Programs for Post-High-School Occupational Education (VAED 420/820) (1-3 cr)

Designing new instructional programs, expanding the impact of student behavioral objectives, and evaluating the total instructional program.

### \*431. Student Teaching<sup>1</sup> (3-12 cr) Prereq: 3 hrs educational psychology, passing score on the Preprofessional Skills Tests (PPST) and permission. *Placement arranged by the department.* Seven to sixteen weeks of off-campus student teaching. Students receive guided participation in various phases of a school agricultural education program.

### 433/833. Planning and Implementation of Cooperative Extension Programs for Domestic and Foreign Audiences (3 cr II) Lec 3. Prereq: Senior or graduate standing and consent of instructor.

The cooperative extension service as an educational institution and its involvement of local people in the program development and identification of problems and design of long-range plans, annual plans, community development, and plans for single events; applicable to domestic and foreign extension programs.

### 494. Undergraduate Seminar in Agricultural Education (1-3 cr)

Philosophy and relationship of agricultural education in the public schools. Development and coordination of adult and continuing agricultural education programs.

### 495. Internship in Leadership Development<sup>1</sup> (2-5 cr I, II, III) Prereq: ALEC 102, 134, 134L, permission, and completion of the Internship Agreement form. *The internship site and training program are subject to approval by the department.* Practical internship experiences in a selected agribusiness, industry, or agency. Collaborative development of a training program and leadership activities in which the student will participate.

### 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 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 II) Lec/act.

### 805. Advanced Teaching Strategies (CURR, VAED 805) (1-3 cr) Lec/act.

### 806. Introduction to Distance Education (3 cr) Lec.

### 807. Supervisory Leadership (FACS 807) (3 cr) Lec/lab. Prereq: ALEC 801 or permission.

### 815. Development and Organization of Vocational Education (VAED 815) (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 (VAED 826) (3 cr)

### 845. Research in Occupational Education (FACS 845) (1-3 cr II, III) Lec.

### 890. Workshop Seminars (VAED 890) (1-12 cr I, II, III)

**893. Technical Agricultural Workshops** (1-12 cr I, II, III)  
Preq: 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 Engineering

**Head: Professor Glenn Hoffman**

**Professors:** Bashford, Clements, Eisenhauer, Hanna, Martin, Meyer, Schinstock, Schulte

**Associate Professors:** Jones, Kocher, Meagher, Weller

**Assistant Professor:** Brand

The agricultural engineering major is offered through the College of Engineering and Technology. Refer to "Requirements for the Degree of Bachelor of Science in Agricultural Engineering (Lincoln campus)" on page 231.

## Agricultural Journalism

This joint major is administered by the Department of Agricultural Leadership, Education and Communication and the Office of the Dean.

**Coordinators: Professor James K. Randall and Professor (Emeritus) Richard L. Fleming.**  
Department of Agricultural Leadership, Education and Communication

Agricultural Journalism is available only as a second major to students enrolled in any other major leading to a bachelor of science degree in agricultural sciences. The agricultural journalism major requires 32 hours of journalism courses, in addition to fulfilling all requirements for a second major. All students must maintain a 2.5 grade point average and be of sophomore standing to enroll in courses in the College of Journalism and Mass Communications.

Students majoring in agricultural journalism must select one of three areas of emphasis: advertising, broadcasting, or news-editorial. Depending upon the journalism emphasis they select, graduates are prepared for positions on agricultural publications or daily and weekly newspapers; in radio and television; in advertising; and in public information/relations work with industry, government, and education.

An early decision and careful planning may allow a student to complete this major within the minimum 128 credit hours required in CASNR. The second major, commonly diversified agricultural studies, provides an agricultural base for the required 32 credit hours of journalism courses.

Students completing the following program of study will receive a bachelor of science degree in agricultural sciences with a double major in diversified agricultural studies and agricultural journalism with an area of emphasis. Students wishing to pursue a second major, other than diversified agricultural studies, must see an adviser to develop an acceptable program of study.

## Double Major Requirements

*(Diversified Agricultural Studies and Agricultural Journalism)*

	Hours
<b>College Integrative Courses</b> .....	3
AGRI 103 Food, Agriculture & Natural Resource Systems.....	3

Capstone Course  
*Select a capstone course from the Agricultural Sciences course listing below. Recommended: ALEC 495 (2-5 cr)*

<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	5
<i>Includes Statistics and PHIL 211 Intro to Modern Logic</i>	

**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.

<b>Communication</b> .....	9
Written communication.....	3

*Select from: ENGL 150, 151, 254, or 255; CURR 120; JGEN 200 or 300*

Oral Communication.....	3
<i>Select from: COMM 109, 209, 212 or 311</i>	

Communication & Interpersonal Skills electives .... 3  
*Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212 or 311*

<b>Natural Sciences</b> .....	16-17
AGRO 315 Genetics.....	4
<i>or BIOS 301 General Genetics (4 cr)</i>	
BIOS 101 and 101L General Biology.....	4
CHEM 109 General Chemistry .....	4
MSYU 109 Physical Principles in Agriculture (4 cr) .....	4-5
<i>or PHYS 141 Elem General Physics (5 cr)</i>	
<i>or PHYS 151 Elements of Physics (4 cr)</i>	

<b>Humanities and Social Sciences</b> .....	21
ECON 211 or 212 or AECN 141.....	3
Essential Studies.....	15

*Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)*

Human Behavior, Culture & Social Organization  
Humanities  
Historical Studies  
Arts  
Race, Ethnicity & Gender  
Elective .....

*To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories.*

<b>Agricultural Sciences</b> .....	34-36
A minimum of 20 hours must be completed at the 200 level or above and a minimum of 10 hours must be completed at the 300 level or above. In meeting degree requirements, students must have a course in four CASNR department or program areas. Independent studies, special problems, career or industrial experience, or study tour cannot be used to fulfill this requirement.	

Production and Production Management.....	9
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*Must include: course work in at least two of the following program areas: agronomy, animal science, horticulture, and mechanized systems management.*

*Select from: AGRO 131, 204, 240, 269, 366, 405; ASCI 100, 150, 200, 240, 250, 300B, 300D, 300E, 320, 330, 340, 341, 351, 360, 450, 452, 453, 454, 455, 456, 457, and 485; ENTO 109; NRES 310; HORT 130, 221, 260, 325, 327, 350, 351 and 362; MSYU 232, 242, 245, 312 and 452*

Commodity Protection .....	5-6
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*Select from: AGRI 200; AGRO 220; ENTO 115, 116, 203, 308 and 409; FDST 403, 405, 406 and 425; NRES 348; MSYU 342 and 364; PLPT 369; VBMS 303 and 441*

Utilization .....	5-6
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*Select from: ASCI 210, 211, 270, 300A, 310 and 410; FDST 101, 203, 412, 418, 429 and 455; HORT 170, 200, 261, 262, 266, 339, 341, 343 and 417*

Economics and Management..... 9

*Must include: 6 cr hours in agricultural economics  
Select from: all agricultural economics courses except AECN 388, ALEC 202 and 380, NRES 423, and MSYU 462*

Resource Characterization .....

*Select from: AGRO 153, 340, 361, 440, 443, 444, 445, and 477 and ASCI 451; NRES 211, 311, 323 and 350; HORT 212, 213, 408 and 425; MSYU 354*

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

<b>Journalism Courses</b> .....	32
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*Select one of the following Areas of Emphasis. Refer to the "College of Journalism and Mass Communications" on page 303 of this bulletin for a complete listing of courses.*

Advertising (32 cr)

ADVT 281. Intro to Advertising .....	3
ADVT 283. Promotional Writing .....	3
ADVT 333. Communications Graphics .....	3
ADVT 357. Advertising Copy & Strategy .....	3
ADVT 460. Advertising Media Strategy .....	4
ADVT 489. Advertising & Public Relations Campaigns .....	4

JOUR 485. History of Mass Media .....	3
JOUR 486. Communications Law .....	3
JOUR 487. Mass Media & Society .....	3
Elective (Select from courses prefixed JOUR, JGEN, ADVT, BRDC, and NEWS) .....	3

Broadcasting (32 cr)

BRDC 226. Intro to Broadcasting .....	3
BRDC 227. Principles of Radio & Television .....	3
BRDC 228. Broadcasting Production .....	3
BRDC 228L. Broadcasting Production Lab .....	1
BRDC 369. Cinematography/Videography .....	3
BRDC 370. Broadcast Writing .....	3

BRDC 372. Advanced Reporting for Broadcasting .....	3
BRDC 372L. Advanced Reporting for Broadcasting Lab .....	1
JOUR 485. History of Mass Media .....	3
JOUR 486. Communications Law .....	3
JOUR 487. Mass Media & Society .....	3

Elective (Select from courses prefixed JOUR, JGEN, ADVT, BRDC, and NEWS) .....	3
Credits Required for Graduation .....	128

## Editorial (32 cr)

NEWS 217. Typography .....	3
NEWS 280. Principles of Editing .....	3
NEWS 282. News Writing & Reporting .....	3
NEWS 284. Intro to Photojournalism .....	3
NEWS 371. Advanced Reporting .....	4
NEWS 381. Newspaper Editing .....	4
JOUR 485. History of Mass Media .....	3
JOUR 486. Communications Law .....	3
JOUR 487. Mass Media & Society .....	3

## Electives .....

*Recommend courses prefixed JOUR, JGEN, ADVT, BRDC, and NEWS*

**Professor Edward T. Elliott**, Director of School of Natural Resource Sciences  
**Professors:** Hubbard, Verma, Weiss, Wilhite  
**Associate Professor:** Walter-Shea  
**Assistant Professors:** Hayes, Hu, Meyer, Stooksbury

Faculty members in agricultural meteorology are part of the School of Natural Resource Sciences. They teach courses to help students gain an understanding of relationships and interactions between the atmosphere and the biosphere. These courses examine the relationships between physical factors and the biological environment. Courses are also offered that examine the role of climate and the impact of climatic events on agriculture, in particular, and

society, in general. The courses NRES 408 and 452 would be very appropriate for majors in agricultural sciences, natural resources, biology, geography, and engineering.

## Courses of Instruction (NRES) (formerly AMET)

**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. For course description, see NRES 408/808 on page 91.

**452/852. Climate and Society** (AGRO, GEOG, METR 450/850) (3 cr) Prereq: Junior standing, major in any of the agricultural or physical or biological sciences or engineering, METR 251 or 350 or equivalent, or permission. *Offered spring semester of odd-numbered calendar years*. For course description, see NRES 452/852 on page 91.

**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*. For course description, see NRES 469/869 on page 91.

**496/896. Independent Study** (AGRI 496) (1-5 cr I, II, III) Prereq: 12 hrs natural resource sciences or closely-related fields; permission. For course description, see NRES 496/896 on page 91.

Refer to the Graduate Bulletin for 900-level courses.

## Agronomy

**Head: Professor Kenneth G. Cassman,**  
Department of Agronomy

**Professors:** Baenziger, Eastin, Francis, Lewis, Maranville, Mason, Moser, Powers, Sorensen, Specht, Staswick, Stubendieck, Waldren

**Associate Professors:** Arkebauer, Clegg, Graef, Lee, McCallister, Mortensen, Schacht, Walters

**Assistant Professors:** Drijber, Gill, Lindquist

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 major should see "Rangeland Ecosystems" on page 96 or "Soil Science" on page 97.

## Agronomy Major

The agronomy major 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:

1. Students who wish to be directly involved in crop production through farm management, crop advising, or merchandising of farm and ranch supplies.
2. Students who wish to be involved in an agricultural business dealing with agricultural crops or supplies.

3. 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.
4. Students who are interested in environmental quality related to the production of agricultural crops.

## Major Requirements

Students may select one of these areas in which to study or may combine courses from more than one of the areas. Considerable flexibility is offered in designing the course program.

The following basic courses are required for the agronomy major. In addition, students in the agronomy major must select and meet the requirements of one of the options, depending upon their particular needs and interests.

	Hours
<b>College Integrative Course</b> .....	<b>3</b>
AGRI/NRES 103 Food, Agriculture & Natural Resource Systems .....	3
<b>College Capstone Course</b> .....	<b>3</b>
AGRO 405 Crop Management Strategies <b>or</b> AGRO 445 Livestock Management on Range & Pasture <b>or</b> AGRO 475 Water Quality Strategy .....	3
<b>Agronomy</b> .....	<b>9</b>
AGRO 131 Plant Science .....	3
AGRO 132 Plant Science Lab .....	1
AGRO 153 Soil Resources .....	4
AGRO 401 Senior Seminar .....	1
<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	<b>5</b>
Includes: mathematics, statistics, biometry, PHIL 211	
<b>Communications</b> .....	<b>9</b>
Written Communication .....	3
Select from: ENGL 150, 151, 245, 255; CURR 120; IGEN 200, 300	
Oral Communication .....	3
Select from: COMM 109, 209, 212, 311	
Communication and Interpersonal Skills .....	3
Select from: ENGL 101, 102, 150, 252, 253, 254, 255; CURR 120, 325; ALEC 102; IGEN 200, 300; COMM 109, 209, 212, 311	
<b>Natural Sciences</b> .....	<b>24-25</b>
AGRO 315 Genetics .....	4
BIOS 101 and 101L Intro to Biology .....	4
BIOS 109 Botany .....	4
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
MSYM 109 or PHYS 141 or 151 .....	4-5
<b>Humanities and Social Sciences</b> .....	<b>21</b>
ECON 211 or 212 or AECN 141 .....	3
Essential Studies .....	15
Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
Select from lower-level modern languages courses or from one of the CASNR Essential Studies categories	
<b>NOTE:</b> One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.	
<b>Total Major Requirements</b> .....	<b>73-74</b>
<b>Option Requirements and Free Electives</b> .....	<b>54-55</b>
<b>Total Requirements for Graduation</b> .....	<b>128</b>

## Options

### Integrated Crop Management

Students selecting the integrated crop management option are preparing themselves for a broad range of employment opportunities related to crop production and soil management. They include crop consulting, fertilizer and agricultural chemical sales, seed production and sales, farm management, and farming.

	Hours
<b>Agricultural Sciences</b> .....	<b>23</b>
AGRO 204 Resource Efficient Crop Management ..	3
AGRO 220 Principles of Weed Science .....	3
AGRO 240 Forage, Crop & Range Management ..	4
AGRO 269 Principles of Soil Management .....	3
AGRO 366 Soil Nutrient Relationships .....	4
ENTO 308 Management of Field Crop Insects ..	3
PLPT 369 Introductory Plant Pathology .....	3
<b>Natural Sciences</b> .....	<b>6-8</b>

Select at least 2 courses from the following list: (Note: some courses listed include prerequisites not shown):

BIOC 221 Intro to Biochemistry .....	3
BIOS 201 Cell structure & function .....	4
BIOS 203 Bioethics .....	3
BIOS 204 Biodiversity .....	4
BIOS 302 Ecology & Evolution .....	4
BIOS 312 Fundamentals of Microbiology .....	3
BIOS 320 Principles of Ecology .....	3
BIOS 325 Plant Physiology .....	4
BIOS 425 Plant Biotechnology .....	3
BIOS 471 Plant Taxonomy .....	4
CHEM 251 Organic Chemistry .....	3
ENTO 401 Insect Physiology .....	4
ENTO 406 Insect Ecology .....	3
HORT 409 Horticulture Crop Physiology .....	4

### Free Electives

Free electives are designed into the curriculum to give students the opportunity to pursue study in areas of personal interest. There are no restrictions on what courses may be taken as free electives. Listed below are a number of courses that we encourage agronomy students to consider as possible free electives.

Any 300- or 400-level AGRO course not listed elsewhere	
AGRO 299 Research Problems & Career Experiences (1-5 cr)	
AECN 201 Farm & Ranch Management (3 cr)	
AECN 211 Principles of Agricultural Marketing (3 cr)	
AECN 256 Legal Aspects in Agriculture (3 cr)	
GEOG 150 Physical Geography (3 cr) or GEOG 155 Elements of Physical Geography (4 cr)	
GEOG 281 Hydrogeography (3 cr)	
GEOG 308 Biogeography (3 cr)	
GEOG 418 Remote Sensing I: Photographic Sensors (4 cr)	
GEOG 419 Remote Sensing II: Non-Photographic Sensors (4 cr)	

### Science Option

The science option emphasizes basic sciences as they relate to agronomy and is designed for the student with a science interest. This option prepares students for graduate school in agronomy or for employment in scientific laboratories. This option provides the first step toward preparing students for research, teaching, or extension careers with government agencies or industry. Students electing this option will often be planning to pursue advanced degrees.

	Hours
<b>Agronomy</b> .....	<b>6-8</b>
AGRO 204 Resource Efficient Crop Management (3 cr) .....	3-4
or AGRO 240 Forage Crop & Range Management (4 cr)	
AGRO 269 Principles of Soil Management (3 cr) ..	3-4
or AGRO 366 Soil Nutrient Relationships (4 cr)	

<b>Mathematics and Analytical Skills</b>	
<b>(beyond college algebra).....</b>	<b>6-8</b>
MATH 104 Calculus for Managerial & Social Sciences (3 cr) .....	3-5
or MATH 106 Analytical Geometry & Calculus (5 cr)	
Select Statistics from Major Requirements .....	3
<b>Natural Sciences.....</b>	<b>17</b>
CHEM 251 Organic Chemistry.....	3
CHEM 253 Organic Chemistry Lab.....	1
BIOS 325 Plant Physiology.....	4
BIOS 321 Elements of Biochemistry.....	4
or CHEM 221 Elementary Quantitative Analysis	
PHYS 142 Elementary General Physics .....	5
Select PHYS 141 from core.	
<b>Free Electives.....</b>	<b>18-20</b>

### Business Option (Agronomy)

The business option prepares students for management, sales, and public relations positions in agriculturally related industries and in finance, credit, and marketing organizations serving agriculture. Employment opportunities exist in fertilizer, seed, grain, and similar industries as well as in credit, banking, farm management, and regulatory companies or agencies.

	<b>Hours</b>
<b>Agronomy.....</b>	<b>6-8</b>
AGRO 204 Resource Efficient Crop Management (3 cr) .....	3-4
or AGRO 240 Forage Crop & Range Management (4 cr)	
AGRO 269 Principles of Soil Management (3 cr) .....	3-4
or AGRO 366 Soil Nutrient Relationships (4 cr)	
<b>Business and Economics .....</b>	<b>13-16</b>
Accounting .....	4-6
ACCT 201 and 202 Intro to Accounting (6 cr) or ACCT 306 Survey of Accounting (4 cr)	
Selected Business courses.....	9-10
Include at least one course each from any three of the following four areas:	
Business Law	
BLAW 371 Legal Environment (3 cr)	
BLAW 372 Business Law I or AECN 256 Legal Aspects in Agriculture (3 cr)	
Finance	
AECN 452 Agricultural Finance (3 cr)	
ECON 303 An Intro to Money & Banking (3 cr)	
FINA 361 Finance or FINA 365 Financial Institutions & Markets (3 cr)	
Management	
AECN 316 Agricultural Business Management (3 cr)	
MNGT 331 Operations & Resources Management or MNGT 360 Human Resources Management (3 cr)	
Marketing	
AECN 211 Principles of Agricultural Marketing (3 cr)	
AECN 311 Advanced Agricultural Marketing (4 cr)	
MRKT 341 Marketing (3 cr)	
MRKT 347 Promotional Strategy (3 cr)	
MRKT 425 Retailing Management (3 cr)	
MRKT 442 Marketing Management (3 cr)	
Free Electives .....	<b>27-30</b>

### 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 299 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.

	<b>Hours</b>
<b>Core Courses .....</b>	<b>8</b>
AGRO 131 Crop Science .....	3
AGRO 131L Plant Science Lab.....	1
AGRO 153 Soil Resources .....	4
<b>Additional Courses .....</b>	<b>10</b>
Select from: AGRO 204, 220, 240 (RNGE, 269 (SOIL), 299 (RNGE, SOIL), 366 (SOIL), 403 (NRES, HORT), 404, 405, 408 (NRES, GEOG, HORT, WATS, BIOS 457/857), 416 (HORT), 420, 421, 496 (RNGE, SOIL)	

### Courses of Instruction (AGRO)

- [ES] 131. Plant Science** (3 cr I, II) Lec 3. Basic agronomic principles involved in the growth, structure, and soil-plant interactions with emphasis on ecological processes. Classification of economically important plants and common weeds. Influences of people and the environment on plant growth and the importance of plant production on world food supply.
- 132. Plant Science Laboratory** (1 cr I, II) Lab 2. Prereq: AGRO 131 or parallel. Botany of plants with emphasis on grasses and legumes. Identification of economically important plants and common weeds. Effects of light, temperature, and mineral nutrition on plants. Identification of growth stages in grasses and legumes. Calibrations of seeding, fertilizer, and chemical applicators.
- [ES] 153. Soil Resources** (SOIL 153) (4 cr I, II) Lec 1, act 4. Prereq: High school chemistry or 1 sem 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.
- 201. Preparation for an Agronomic Career** (RNGE, SOIL 201) (2 cr II) Lec 2. Prereq: Sophomore standing; major in agronomy, range science, or soil science, or permission. Group activities to help formulate ideas about careers. Develop skills and obtain information bases that help to be more effective students and be better prepared for post-college life. Emphasis on plant and soil sciences.
- 204. Resource-Efficient Crop Management** (3 cr I, 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.
- 220. Principles of Weed Science** (3 cr II) Lec 2, lab 2. Prereq: AGRO 153, BIOS 109. Weed identification and biology; weed losses and interference in crops; weed control by preventive, cultural, biological, mechanical and chemical means. Herbicide terminology and classification; equipment calibration and dosage calculations. Weed control systems in several Nebraska crops.
- [IS] 240. Forage Crop and Range Management** (RNGE 240) (4 cr I, II) 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 Range Plants** (RNGE 242) (1 cr I, II, max 4) Lec/field. Prereq: Permission, AGRO 240 recommended. Develops skills for identification and description of 200 important range plants of North America. The characteristics of these plants evaluated in terms of management implications.
- 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.
- 279. Soil Evaluation** (SOIL 279) (1 cr I, II, max 3) Soil profile characteristics and evaluation of these characteristics in terms of soil genesis, classification, and use.
- 299. Research Problems and Career Experience** (RNGE, SOIL 299) (1-5 cr I, II, III) Prereq: Permission and advance approval of plan of work. *P/N only. Written report usually required.*

Student 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.

**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.

**340. Range Management and Improvement** (RNGE 340) (3 cr II) Lec 2, lab 3. Prereq: AGRO 240 or permission. Analyzing the principles of range management within the ecosystem framework with emphasis on range improvement practices, including grazing systems; plant control using biological, chemical, mechanical factors; prescribed burning; range seeding; range fertilization and the integration of range with other forage resources.

**360. Applied and Environmental Microbiology** (3 cr II) Lec 3. Prereq: BIOS 101 and 101L, CHEM 109 and 110; 1 sem biochemistry or organic chemistry. *Credit towards the degree can be earned in only one of: BIOS 312 or AGRO 360.* Fundamental and applied microbiology; rich diversity of microbial life in soil, water and other natural or artificial environments and their roles in elemental cycling, plant growth, environmental remediation, and animal and human health.

**361. Soils, Environment and Water Quality** (GEOL, SOIL, WATS 361) (3 cr II) Lec 3. Prereq: PHYS 141 or equivalent, one year chemistry, one semester biology and one of the following: AGRO 153 or GEOL 101 or CHEM 116 or CHEM 221. 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.

**401. Agronomy Senior Seminar** (RNGE, SOIL 401) (1 cr II) Disc 1. Prereq: 80 cr. *An oral presentation will be made.* Experience in library research related to agronomic topics and in collating that information in outline form suitable for making oral presentations.

**403/803. Fundamentals of Crop Physiology** (HORT, NRES 403/803) (2 cr II, first 8 wks) Lec 4. Prereq: BIOS 325 or equivalent. *To complete a basic course in crop physiology, students registering for AGRO 403/803 (NRES, HORT 403/803) should also register for at least one or more of the following for the second eight weeks: AGRO 404/804 (Field Crop Physiology), AGRO 441/841 (Forage and Range Physiology).* Principles of crop physiology as derived from the basic precepts of plant physiology/biochemistry and crop production/ecology.

**404/804. Field Crop Physiology** (2 cr II, second 8 wks) Lec 4. Prereq: AGRO 403/803. AGRO 403/803 (first eight weeks) and AGRO 404/804 (second eight weeks) constitute a basic one-semester course in field crop physiology and should be taken consecutively in the same semester. Evaluation and appraisal of some contemporary aspects of crop physiology in major cereal and grain legume crops.

**[IS] 405. Crop Management Strategies** (3 cr I) Rct 3. Prereq: Senior standing; AGRO 204, AGRO/SOIL 269; and permission. *All students required to participate in a one-week field trip prior to the beginning of fall semester; students must notify instructor at time of early registration (dates are given in class schedule).* Application, expansion, and integration of principles from undergraduate agricultural, biological, and physical sciences courses in the development and management of cropping systems.

**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.

**414/814. Experiments in Genetics (1-3 cr I, II, III) Lab arr. Prereq: AGRO 315 or BIOS 241; BIOM 201 or 801; and consent of cooperating faculty member.**

Opportunity to work on a research project conducting experiments in basic or applied plant genetics. Students work with faculty members in design and execution of the experiment, and will be responsible for analysis, interpretation, and reporting of the research results.

**416/816. Seed Physiology (HORT 416/816) (2 cr II) Lec 2. Prereq: BIOS 325 or equivalent. Offered even-numbered calendar years.**

Morphological, physiological, and biochemical processes that are basic to seeds.

**419/819. Remote Sensing II: Non-Photographic Sensors (GEOG, GEOL 419/819) (4 cr I) Lec 3, lab 2.**

Prereq: GEOG 418/818 and 6 hours of student's major department or permission.

For course description, see GEOG 419/819.

**420/820. Herbicide Technology (3 cr II) Lec 3. Prereq: AGRO 131, 153, 220; CHEM 109, 251 or BIOC 221; BIOS 325 recommended. Offered odd-numbered calendar years.**

Technical aspects of herbicide use, including chemistry of active ingredients and formulations, application techniques, introduction to mode of action and environmental fate, hazard assessment and survey of research techniques.

**421. Introduction to Plant Breeding (3 cr II) Lec 3. Prereq: AGRO 315 or BIOS 241. Offered spring semester of odd-numbered calendar years.**

Introduction to plant breeding theory and technique, and the application of genetic principles to plant improvement. Hands-on experience with breeding agronomic and horticultural plant species to illustrate mating systems and breeding principles.

**424/824. Plant Nutrition and Nutrient Management (HORT 424/824) (3 cr II) Lec 2. Prereq: BIOS 425 or a basic course in plant physiology or permission. A course in organic chemistry or biochemistry recommended. Offered spring semester of odd-numbered calendar years.**

For course description, see HORT 424/824.

**425/825. Turfgrass Science and Culture (HORT 425/825) (3 cr I) Lec 3, rct/lab 2. Prereq: 9 hrs agricultural plant science and 3 hrs soil science. Offered odd-numbered calendar years.**

For course description, see HORT 425/825.

**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. Hands-on 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 431/831 and BIOS 325 or AGRO/HORT 403/803 or permission.**

For course description, see BIOC 434.

**435/835. Agroecology (NRES 435/835) (3 cr I) Lec 3.**

Prereq: For undergraduates: Senior standing or permission. A course in ecology recommended. For graduate students: 12 hrs biological or agricultural sciences or permission.

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. Discussions and team projects for developing communication skills and leadership experience.

**440/840. The Range Ecosystem (RNGE 440) (3 cr II) Lec 3. Prereq: 12 hrs biological science, including BIOS 320 or 325.**

Characteristics of range ecosystems, interrelationships of ecological factors and processes, and their application in the management of rangeland.

**441/841. Forage and Range Physiology (HORT 441/841, RNGE 441) (2 cr II, second 8 wks) Lec 4. Prereq: AGRO 403/803, AGRO 403/803 (first eight weeks) and AGRO 441/841 (second eight weeks) constitute a one-semester course in forage and range physiology.**

Principles of crop physiology studied in relation to the growth, development, and survival of perennial plants. Emphasis on the application of physiological principles to forage systems and to the improvement of forage plants.

**442/842. Range Plants (RNGE 442) (3 cr I) Lec 2, lab 3. Prereq: 12 hrs agronomy or biological sciences.**

Comprehensive study of range plants that are important to range management and production. Distribution, utilization, classification, identification (including identification by vegetative parts), and recognition of grasses, legumes, poisonous plants, and troublesome range weeds with emphasis on grasses.

**444/844. Rangeland Analysis (RNGE 444) (3 cr I) Lec 2, lab 3. Prereq: 12 hrs biological science and AGRO 340, or permission; AGRO 440/840 recommended.**

Criteria by which rangelands are analyzed. Vegetation sampling techniques, measurement and evaluation of vegetation by animal performance, and measurement of important environmental factors. Evaluations of range sites, condition, trend, utilization, key species, stocking rates, 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 class schedule.)**

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: Junior standing, major in any of the agricultural or physical or biological sciences or engineering, METR 251 or 350 or equivalent, or permission. Offered spring semester of odd-numbered calendar years.**

For course description, see NRES 452/852.

**455/855. Soil Chemistry and Mineralogy (SOIL 455, NRES 455/855) (3 cr I) Lec 3. Prereq: AGRO/SOIL 153, CHEM 116 or 221 or equivalent.**

Chemical and mineralogical properties of soil components with emphasis on the 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 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.

**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.****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.****496/896. Independent Study (RNGE, SOIL 496) (1-6 cr I, II, III)****498. Senior Project<sup>1</sup> (SOIL 498) (1-3 cr 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 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. Techniques in Crop Physiology (3 cr II) Lec 1, lab 6. Prereq: BIOS 325 or equivalent courses or permission. Offered odd-numbered calendar years.****807. Plant-Water Relations (NRES 807; BIOS 817) (3 cr I) Lec 3. Prereq: BIOS 325 or equivalent, MATH 106 recommended or permission.****810. Plant Molecular Biology (BIOC, BIOS, HORT \*810) (3 cr II) Lec 3. Prereq: AGRO 315 or BIOS 301, BIOC 831 or permission.****815. Plant Breeding Methods: Principles and Practices (3 cr I) Lec 3. Prereq: AGRO 315.****821. Herbicide Mode of Action (3 cr I) Lec 3. Prereq: BIOS 325, BIOC 431/831, AGRO 420/820. Offered odd-numbered calendar years.****822. Advanced Weed Science (2 cr II) Lec 2. Prereq: AGRO 220 or equivalent.****899. Masters Thesis (6-10 cr) P/N only.**

Refer to the Graduate Bulletin for 900-level courses.

## Animal Science

**Head: Professor Donald H. Beermann**, Department of Animal Science

**Professors:** Beck, Brink, Calkins, Ellington, Gilster, Gosey, Johnson, Klopfenstein, Lewis, Mandigo, Nielsen, Scheideler, VanVleck

**Associate Professors:** Anderson, Burson, Jones, Kittok, Larson, Miller, Pomp, Reese

**Assistant Professors:** Milton, Miner

A major in animal science is designed particularly for students who are interested in pursuing a career associated with the livestock, poultry, and meat industries. The main areas are:

1. Management positions with companies serving animal agriculture through the manufacture and distribution of feed, pharmaceuticals, equipment, and other products;
2. Animal production in beef, dairy, horses, poultry, sheep and swine;
3. The processing of animals and their products meat, eggs, and wool;
4. The teaching of animal science to youth and adults in formal education and extension;

5. Research and teaching in universities and industry.

Each student can specialize in any of the above areas by developing an individualized program of study that will complete preparation for specific career objectives. In consultation with an animal science adviser, a plan of study is prepared early in the four-year program. This plan is used as a guide in selecting the proper electives to provide training for the chosen career. Students also have the opportunity to qualify for a teaching certificate. Animal science majors must complete the animal science major core requirements plus the requirements developed for their individualized program of study.

Students pursuing a DVM degree at an accredited college of veterinary medicine may obtain a BS degree in agricultural sciences with an animal science major, 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 Requirements

	Hours
<b>College Integrative Courses</b>	<b>6</b>
AGRI 103/NRES 103 Food, Agriculture & Natural Resource Systems.....	3
ASCI 485 Animal Systems Analysis <sup>1</sup> .....	3
<b>Departmental Requirements</b>	<b>24-25</b>
Animal Science .....	21
ASCI 100 Animal Agriculture (2 cr)	
ASCI 101 Intro to Animal Science (1 cr)	
ASCI 210 Animal Products (3 cr)	
ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr)	
ASCI 250 Animal Management (3 cr)	
ASCI 320 Animal Nutrition & Feeding (3 cr)	
ASCI 330 Animal Breeding (4 cr)	
ASCI 491 Animal Science Seminar (1 cr)	
Business Electives <sup>2</sup> .....	3-4
Select from: ACCT 201, 202, 306; AECN 201, 211, 316; FINA 260, 361; MNGT 331, 360, 361; and MRKT 341	
<b>Natural Sciences</b>	<b>27</b>
AGRO 315 Genetics or BIOS 301 General Genetics .....	4
BIOC 221 Intro to Biochemistry (3 cr) and BIOC 221L Intro to Biochemistry Lab (1 cr).....	4
or CHEM 251 Organic Chemistry (3 cr) and CHEM 253 Organic Chemistry Lab (1 cr)	
BIOS 101 General Biology and BIOS 101L General Biology Lab .....	4
or BIOS 112 Intro to Zoology	
BIOS 312 Fundamentals of Microbiology or AGRO 360 Applied & Environmental Microbiology .....	3
CHEM 109 General Chemistry I.....	4
CHEM 110 General Chemistry II .....	4
MSYM 109 Physical Principles in Agriculture .....	4
or PHYS 141 General Physics (5 cr) <sup>2</sup>	
or PHYS 151 Elements of Physics (4 cr)	
<b>Mathematics and Analytical Skills</b>	<b>5</b>
BIOM 201 Intro to Biometry or.....	3
MATH 180 Elements of Statistics or ECON 215 Statistics	
MATH 102 Trigonometry <sup>3</sup> .....	2

<b>Communications</b> .....	<b>9</b>
JGEN 200 Technical Communication I.....	3
Oral Communication.....	3
Select from: COMM 209, 212 or 311	
Communication and Interpersonal Skills elective.....	3
Select from: ENGL 150, 151, 252, 253, 254, 255; CURR 120, 325; or COMM 209, 212 or 311	
<b>Humanities and Social Sciences</b> .....	<b>21</b>
Essential Studies.....	18
Select at least one 3-credit course in each of the following five CASNR Essential Studies categories:	
Human Behavior, Culture & Social Organization	
ECON 211 Macroeconomics (3 cr) and	
ECON 212 or AECN 141 Microeconomics (3 cr)	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.	

**NOTE:** One 3-credit course with an international focus is to be selected from "International Affairs Minor (Agricultural Emphasis)" on page 61.

Students will take at least ten Integrative Studies [IS] courses, at least one must be a 200-level course, one a 300-level course, and one a 400-level course. Integrative Studies courses can be taken from any University department (including the major), with the limit of three from one department.

<b>Specialization</b> .....	<b>23</b>
<b>Free Electives</b> .....	<b>12-13</b>
<b>Total Credit Hours Required for Graduation</b> .....	<b>128</b>

All animal science majors must complete an area of specialization that could include the requirements for a college option.

- Specialization is available by selecting courses to meet specific student goals. Examples of possible areas of specializations include the following:

### SPECIES

- Cattle
  - Beef Cow/calf
  - Dairy
  - Feedlot
- Horse
- Poultry
- Sheep
- Swine

### PROGRAMS

- Business
- International Management
- Marketing
- Production
- Range Science

### DISCIPLINES

- Genetics
- Meats
- Nutrition
- Physiology

- Specialization, an individualized program of study, is to be designed by the student in consultation with an adviser and approved by the Animal Science Teaching Coordinator before completing 45 hours. Transfer students must file their plan during their first semester at UNL.

- Specialization must include at least 10 hours at the 300 level or above; however, the courses may be selected from any college or department.

## Areas of Specialization

### Production/Management Specialization

This example is for animal science students who desire to work in producing, managing and marketing beef, dairy, horses, poultry, sheep or swine. Employment opportunities are greatest in the operation of farms or ranches, sales, service, and related industries. Other opportunities exist with marketing agencies and state or federal departments of agriculture. Furthermore, students interested in a career in intensive management of feedlot and swine production units may elect to enroll in Beef Feedlot or Swine Enterprise Management Internships. Students should consider including courses from the following areas in their program.

**Animal Sciences:** *Nutrition and Feeding*: ASCI 420, 421; *Breeding and Genetics*: ASCI 431; *Physiology*: ASCI 340, 341; *Products*: ASCI 211, 310, 410; *Management*: ASCI 150, 351, 450, 451, 452, 453, 454, 455, 456, 457; *Animal/Product Evaluation*: ASCI 200, 300 (A,B,D,E), 400 (A,B,E); *Animal Industry Experience*: ASCI 311, 398, 490 (A,B).

**Additional Agricultural Sciences Courses:** *Agronomy*: AGRO 131, 204, 240; *Entomology*: ENTO 405; *Mechanized Systems Management*: MSYM 342; *Veterinary Science*: VBMS 303.

**Business and Economics:** *Accounting*: 201, 202; *Agricultural Economics*: AECN 201, 211, 256, 316.

### Business Specialization

This example is for animal science students desiring a special background in the principles of animal business operations and economics. Employment opportunities include positions in agribusiness related firms, financial consulting, public relations, agricultural financing, government service and farming and ranching. Students should consider including the following courses in their program.

**Animal Sciences:** *Products*: ASCI 211, 310, 311, 410; *Nutrition and Feeding*: ASCI 420; *Management*: ASCI 351, 450, 451, 452, 453, 454, 455, 456, 457.

**Business and Economics:** *Accounting*: ACCT 201, 202; *Business Law*: ACCT 371, 372, AECN 256; *Finance*: AECN 452, ECON 303, FINA 361, 365; *Management*: AECN 201, 316, MNGT 331, 360; *Marketing*: AECN 211, MRKT 341, 347, 425, 442; *Computer Science*: AGRI 271, CSCE 150, 155.

### Meat Science Specialization

This example is for animal science students seeking a career in the production, packaging, processing and/or merchandising of meat. Employment opportunities include positions in grading, packing, processing, and merchandising firms in the meat industry. Meat industry

2. If student selects hours above the minimum, the hours are considered as electives.

3. MATH 101 is a prerequisite for MATH 102. Students qualifying for placement in MATH 106 will have met the trigonometry requirement.

internships are available for students who want an in-depth, first-hand look at the meat industry through an individually tailored work experience. Students should consider including the following courses in their program.

**Animal Sciences:** *Products:* ASCI 211, 310, 311, 410, 419; *Evaluation:* ASCI 200, 300A, 300D, 400A; *Meat Industry Experience:* ASCI 398, 490D.

**Food Science and Technology:** FDST 207, 405, 406.

**Business and Economics:** AECN 256, 316, 452.

## Range Livestock Production Specialization

This example gives animal science students a strong background in the production and utilization of grass and forage to compliment their knowledge of animal production. Employment opportunities are best in cow-calf ranch operations. Students who wish to prepare for various state and federal jobs in range management will need additional courses as indicated by specific agencies. Students should consider including the following courses in their program.

**Animal Sciences:** *Physiology:* ASCI 341; *Management:* ASCI 451, 455.

**Agronomy:** AGRO 131; SOIL 153, 269, 361, 366, 477; RNGE 240, 340, 440, 442, 444.

**Veterinary Science:** VBMS 303.

**Business and Economics:** ACCT 201, AECN 201, 211

## Science Specialization

Animal Science students interested in graduate study, professional schools or employment with scientific laboratories, government research agencies, and technical companies should consider developing a science specialization. Students should consider including the following courses in their program.

**Animal Sciences:** ASCI 340, 341, 419, 421, 431, 442.

**Biological Sciences:** BIOS 312, 314, 315.

**Physical Sciences and Mathematics:** *Physics:* PHYS 141, 142; *Chemistry:* CHEM 221, 251, 252, 431; *Mathematics:* MATH 106, 107.

## Options/Certificates

**Teaching Certificate.** Students wishing to qualify for a teaching certificate must complete the requirements developed for their animal science program of study, plus the teaching certificate requirements, listed under "Teaching Certification" on page 59.

## 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. Animal Agriculture** (2 cr I, II) Lec 2. Uses of animals and animal products, the structure of the industry, as well as trends and current issues related to production and consumption of animal products. Careers related to animal science.

**101. Introduction to Animal Sciences** (1 cr I, II) Lab 2. Survey of careers, internships, skills and information resources for students interested in the animal sciences.

**150. Animal Production Skills** (2 cr I, 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.

**200. Animal and Carcass Evaluation** (3 cr I) Rct/lab 6. 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. Hands-on experience in meat slaughter and fabrication of all major livestock species. Includes sanitation, quality assurance and merchandising of meat products.

**[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 2, rct/lab 2. 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.

**260. Basic Equitation** (2 cr II) Rct/lab 4. Prereq: Sophomore standing. Lab fee: \$60. Limit per section: 12 students. 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.

**[ES][IS] 270. Animal Welfare** (3 cr II) Lec 3. Prereq: Sophomore standing.

In-depth exploration of the issues involved in animal use, and to develop an understanding of the historical, biological, ethical, and social aspects of human/animal interactions in primarily Western culture.

**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** (1 cr I) Lab 3. Prereq: Junior standing and ASCI 200. *The University of Nebraska Junior Livestock Judging Team will be selected from students in this course.*

First course in 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, carcass performance records, and breeding livestock scenarios evaluated. Oral reasons for selection decision required.

**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 Intercollegiate Livestock and Meats Evaluation and Judging—Principles of Horse Evaluation and Judging** (1 cr II) Rct/lab 2. Prereq: Junior standing. Conformation associated with equine structural form and performance standards. Student observations and analysis methods to be monitored by written and oral reports.

**[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. Meat Industry Study Tour** (2 cr I) Prereq: By permission only. *Tour starts the Sunday following Spring Commencement in May for a seven-day tour with follow-up term paper to be submitted prior to final exam period for the Fall semester. Students must see instructor by April 15 for early instructions. An additional special fee will be assessed.*

One-week study tour of meat processors, food processors, and allied industries to develop a more thorough understanding of industry operations and problems.

**[ES] 320. Animal Nutrition and Feeding** (3 cr I, II) Lec 2, rct/lab 2. Prereq: ASCI 240, 250; BIOC 221 or 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.

**[ES] 330. Animal Breeding** (4 cr I, II) Lec 3, lab 2. Prereq: AGRO 315 or BIOS 301; BIOM 201 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.

**[ES] 340. Animal Adaptation, Growth and Lactation** (3 cr II) Lec 3. Prereq: ASCI 240. Role of the neural and endocrine systems in communicating environmental stimuli and their effect upon growth and lactation.

**341. Physiology and Management of Reproduction** (4 cr I, II) 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.

**[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.

**398. Animal Science Industry Experience** (3 cr I, II, III)

Prereq: Sophomore standing; animal science major; and by permission. *Students will be placed in industry jobs with specific learning objectives declared before entering into employment.*

Experience in some aspect of animal agriculture.

**399. Independent Study in Animal Science** (1-5 cr 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** (1 cr I) Lab 3. Prereq: ASCI 300B or equivalent experience. ASCI 300D recommended. *The University of Nebraska Senior Livestock Judging Team will be selected from students in this course.*

Advanced course in livestock judging and evaluation applying principles learned in ASCI 300B and 300D. Field trips to livestock producers and livestock exhibitions are a major part of the course. Proficiency in brief, concise oral presentations of reasons for making a decision is developed.

**400E. Advanced Intercollegiate Livestock and Meats Evaluation and Judging—Advanced Horse Evaluation and Judging** (1 cr I) Rct/lab 2. Prereq: ASCI 300E.

Advanced skill development in horse judging and analysis. Competitive student oral and judgment performance monitored by intercollegiate competition in national contests.

**405/805. Veterinary Entomology** (ENTO, NRES 405/805; VBMS 406/806) (2 cr I) Lec 2. Prereq: 10 hrs entomology or biological science or related fields or permission. For course description, see ENTO 405/805.

**405L/805L. Veterinary Entomology Lab** (ENTO, NRES 405L/805L; VBMS 406L/806L) (1 cr I) Prereq: ENTO/ASCI/NRES 405/805; VBMS 406/806; or parallel.

**[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.

**418/818. Eggs and Egg Products** (FDST 418/818) (3 cr I) Lec 2, lab 3. Prereq: FDST 203 or permission. *Offered odd-numbered calendar years.* For course description, see FDST 418/818.

**419/819. Meat Investigations** (FDST 419/819) (1-3 cr 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.

**420. Advanced Feeding and Feed Formulation** (3 cr II) Rct 2, lab 2. Prereq: ASCI 320.

Advanced course in current feeding practices for domestic animals. Emphasis on diet formulation. Includes comprehensive study of functions and operations of the feed industry.

**[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.

**[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.

**[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 II) Lec 2, lab 2. Prereq: Junior standing and ASCI 250, or permission. ASCI 320 and 330 recommended.

Light horse production. Emphasis on 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: Senior standing or permission; ASCI 250; AECN 201. ASCI 210, 240, 320 and 330 recommended.

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 emphasized.

**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.

**456. Sheep Management** (2 cr II) Lec 1, lab 2. Prereq: Senior standing or permission; ASCI 250; AECN 201. ASCI 210, 240, 320 and 330 recommended.

Factors pertaining to nutrition, physiology, genetics, health, and economics are incorporated into a successful management system to produce and market lambs and wool.

**457. Beef Feedlot Management** (2 cr I) 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.

**[IS] 458. 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.

**490A. Animal Science Internship—Beef Feedlot Management** (3 cr I, II, III) Prereq: ASCI 420, 457; ACCT 201; AECN 211, 311, 452 and permission. ASCI 490A is specifically designed for students interested in pursuing a career in beef feedlot management or related agribusiness. It is anticipated that more than 128 credit hours and 8 semesters of study will be required to meet the objectives of the specialization.

Management internship in a beef feedlot. In-depth study of the organizational and financial structure of the beef feedlot and provides experience in making decisions related to: animal production, marketing, business management, and personnel management.

**490B. Animal Science Internship—Swine Enterprise Management** (3 cr I, III) Prereq: ASCI 341, 420, 454; ACCT 201; AECN 211, 311, 452 and permission. ASCI 490B is specifically designed for students interested in pursuing a career in intensive management of a swine production unit or related agribusiness. It is anticipated that more than 128 credit hours and 8 semesters of study will be required to meet the objectives of the specialization.

Management internship in swine enterprise. In-depth study of the organizational and financial structure of the swine enterprise and provides experience in making decisions related to: animal production, marketing, business management and personnel management.

**490D. Animal Science Internship—Meat Industry Internship** (3 cr I, III) Prereq: ASCI 210, 211, 310 or 410 and permission. Fall enrollment in ASCI 311 is also required. ASCI 490D is specifically designed for students interested in pursuing a career in the meat industry. It is anticipated that more than 128 credit hours and 8 semesters of study will be required to meet the objectives of the specialization.

Internship in the meat industry. In-depth study of meat industry operations and provides experience in making decisions related to: quality assurance, marketing, business management, and personnel management.

**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 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 I, II, III) Prereq: Admission to the University Honors Program and permission; AGR 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) (4 cr I) Lec 3, lab 3. Prereq: CHEM 251; BIOS 112 or ASCI 240.

**846. Animal Physiology II** (BIOS \*814, VBMS \*846) (4 cr II) Lec 3, lab 3. Prereq: ASCI \*845 or permission.

**899. Masters Thesis** (1-10 cr I, II, III)

Refer to the Graduate Bulletin for 900-level courses.

## Biochemistry

**Director: Professor Robert Klucas**, N200 Beadle Center

**Professors:** Chollet, Klucas, Lou, Markwell, Nickerson, Parkhurst, Ragsdale, Schwartzbach, Song, Spreitzer, Stanley, Stezowski, Staswick, Weeks, Wood

**Associate Professors:** Banerjee, Griep, Price  
**Assistant Professors:** Allison, Gladyshev, Miner

The Center for Biological Chemistry offers a major in biochemistry leading to a bachelor of science 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 majoring in biochemistry may not take required courses pass/no pass except for courses involving independent study, research, and seminars. Biochemistry majors may take up to six hours pass/no pass in non-science courses offered by other departments.

## Major Requirements

	Hours
<b>Agricultural Sciences</b> .....	12
AGRI 103/NRES 103 Food, Agriculture, & Natural Resource Systems .....	3
BIOC 101 Career Opportunities in Biochemistry ..	1
BIOC 431 Biochemistry I .....	3
BIOC 432 Biochemistry II .....	3
Capstone Course (fall only)	
BIOC 433 Biochemistry Lab .....	2
<b>Natural Sciences</b> .....	47-50
BIOS 101 General Biology .....	3
BIOS 101L General Biology Lab .....	1
or BIOS 104H Intro to Honors Biology I (4 cr)	

BIOS 201 Cell Structure & Function .....	4
BIOS 301 Genetics.....	4
BIOS 312 Fundamentals of Microbiology .....	3
BIOS 314 Microbiology Lab .....	1
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 and 253 or 261 and 263 Organic Chemistry .....	4
CHEM 252 and 254 or 262 and 264 Organic Chemistry .....	4
CHEM 471 or 481 Physical Chemistry .....	4
PHYS/ASTR 141 Elementary General Physics .....	5
PHYS/ASTR 142 Elementary General Physics .....	5
<b>Mathematics and Statistics.....</b>	<b>15</b>
MATH 101 Algebra.....	3
MATH 102 Trigonometry.....	2
or MATH 103 Algebra & Trigonometry (5 cr)	
MATH 106 Analytic Geometry & Calculus I .....	5
MATH 107 Analytic Geometry & Calculus II .....	5
<b>Communications.....</b>	<b>9</b>
Written Communication .....	3
Select from: ENGL 150, 151, 254, 255; CURR 120; JGEN 200 or 300	
Oral Communication .....	3
Select from: COMM 109, 209, 212 or 311	
Communication and Interpersonal Skills elective.....	3
Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212 or 311	
<b>Humanities and Social Sciences .....</b>	<b>21</b>
ECON 211 or 212 or AECN 141 .....	3
Essential Studies .....	15
Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories listed above.	
<b>NOTE:</b> One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.	
<b>Free Electives .....</b>	<b>18-21</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:

	Hours
BIOC 431 Biochemistry I .....	3
BIOC 432 Biochemistry II .....	3
BIOS 301 General Genetics .....	4
or AGRO 315 (4 cr)	
BIOS 312 Fundamentals of Microbiology .....	3
BIOS 313 Microbiology Laboratory .....	2
or BIOS 314 Microbiology Lab (1 cr)	
CHEM 252 Organic Chemistry .....	3
CHEM 262 Organic Chemistry .....	3
CHEM 264 Organic Chemistry Lab .....	2
or CHEM 254 Organic Chemistry Lab (1 cr)	

### Laboratory Fee and Deposit

Students who enroll in laboratory courses in the Center for Biological Chemistry may be required to pay a small nonrefundable cash fee to defray the cost of materials consumed in the course.

## 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.

[ES] **221. Introduction to Biochemistry** (3 cr I) Lec 3. Prereq: CHEM 110 and either BIOS 101 and 101L or 104H. *BIOC 221 is for students in the applied biological sciences and is not suitable for pre-professional students. Not open to students with credits in organic chemistry such as CHEM 251 or 261 (see BIOC 321).* Brief introduction to the structure and functional groups of organic compounds and their reactions related to living systems (25 percent), followed by elementary biochemistry (75 percent). Biochemical topics include the structures and functions of the major classes of compounds found in living organisms, primary metabolic pathways, photosynthesis and biochemistry of genetics.

**221L. Laboratory for Introduction to Biochemistry** (1 cr) Prereq: Parallel BIOC 221.

**321. Elements of Biochemistry** (3 cr) Lec 3. Prereq: CHEM 251 and either BIOS 101 and 101L or 104H. *BIOC 321 is not suitable for premedical or graduate study preparation or for biochemistry majors. A one-semester, terminal course meeting the requirements for many majors in applied biological science areas.* 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.

**428/828. Radioisotopic Methods** (BIOS 428/828) (2 cr I) Lec 2, lab and quiz 3. Prereq: CHEM 106 or 110, PHYS 142, and MATH 101, or permission. MATH 106 recommended. Theoretical aspects and practical applications of radiotracer methodology in biochemical, biological, and agricultural research.

**428L/828L. Radioisotopic Methods Lab** (BIOS 428L/828L) (1 cr) Prereq: Parallel BIOC 428/828.

**431/831. Biochemistry I** (CHEM, BIOS 431/831) (3 cr I, II, III) Lec 3. Prereq: CHEM 252 or '262. *First course of a two-semester comprehensive biochemistry course sequence. Completion of BIOC 432/832 following this course is recommended. Suitable for biochemistry study in preprofessional and graduate programs.* Structure and function of proteins, nucleic acids and carbohydrates; nature of enzymes; major metabolic pathways; and biochemical aspects of molecular biology.

**432/832. Biochemistry II<sup>1</sup>** (CHEM, BIOS 432/832) (3 cr II) Lec 3. Prereq: BIOC 431/831. *Continuation of BIOC 431/831. Completion of BIOC 431/831 and 432/832 provides comprehensive coverage of topics in modern biochemistry. Suitable for study in preprofessional and graduate programs.* Membrane structure, lipid metabolism, photosynthesis, biosynthesis of all the major constituents of cells and biochemical aspects of genetic phenomena.

**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, CHEM, BIOS 434/834) (3 cr, II) Lec 3. Prereq: BIOC 431/831 and BIOS 325 or AGRO/HORT 403/803 or permission.

Biochemical metabolism unique to plants. Biochemical mechanisms behind physiological processes discussed in plant or crop physiology. Relationships of topics previously acquired in general biochemistry to biochemical processes unique to plants.

**436/836. Biophysical Chemistry** (CHEM, BIOS 436/836) (3 cr II) Lec 3. Prereq: One semester of physical chemistry or permission.

Introductory course covering: X-ray diffraction and protein structure. Absorption spectroscopy of biomolecules, linear and circular dichroic spectroscopy of proteins and nucleic acids. Fluorescence probes, membrane dynamics, NMR, EPR, and resonance Raman spectroscopy applied to biological systems. Energetics, enzyme kinetics, relaxation kinetics, allosteric systems, and hydrodynamics.

**437/837. Research Techniques in Biochemistry<sup>1</sup>** (BIOS 437/837) (4 cr II) Lec 1, lab 9. Prereq: CHEM 116 or 211 and BIOC 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. Hands-on experience with quantitation by spectrophotometry and spectrofluorometry, chromatographic and electrophoretic fractionation of proteins and nucleic acids, detection of biomolecules by immunological and DNA hybridization techniques, and analysis of data with a micro-computer.

**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** (BIOS 498) (1-6 cr I, II, III) Prereq: Permission.

Research on a specific biochemical project under the supervision of a biochemistry faculty member.

**499H. Honors Thesis** (1-6 cr 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.

**\*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) (4 cr I) Prereq: Graduate standing in biochemistry, chemistry, or biological sciences or permission.

**\*848. Metals in Biochemistry** (CHEM \*848) (3 cr) Prereq: 3 hrs biochemistry and 3 hrs inorganic chemistry.

**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 Systems Engineering

### Head: Professor Glenn Hoffman

**Professors:** Bashford, Clements, Eisenhauer, Grisso, Hanna, Martin, Meyer, Schinstock, Schulte

**Associate Professors:** Jones, Kocher, Meagher, Weller

**Assistant Professor:** Brand

The biological systems engineering major is offered through the College of Engineering and Technology. Refer to "Requirements for the Degree of Bachelor of Science in Biological Systems Engineering (Lincoln campus)" on page 229.

## Biometry

### Head: Professor David Marx, Department of Biometry

**Professors:** Eskridge, Parkhurst, Stroup, Young

**Associate Professor:** Kachman

**Assistant Professor:** Blankenship

Faculty members in the Department of Biometry provide a substantial offering of courses in biometry. Biometry 201 is an appropriate elective for majors in any field of agricultural sciences, natural resources, and biology.

## Courses of Instruction (BIOM)

**[ES][IS] 201. Introduction to Biometry** (3 cr II) Lec 3. Prereq: MATH 100 and 101, or 102 or equivalent. Credit towards the degree may be earned in only one of: BIOM 201 or CRIM 300 or ECON 215 or EDPS 459/859 or SOCI 206 or STAT 180 or STAT 380.

Wide scope of topics in the practical application of biometry in agriculture and biology covering collection and organization of data; normal and binomial distributions; elementary probability; regression and correlation; and analysis of variance.

**430/830. Sensory Evaluation** (FDST 430/830) (3 cr I) Lec 2, lab 3. Prereq: STAT 180 or BIOM 201; 12 hrs of food science or permission; senior standing recommended. Offered fall semester of odd-numbered calendar years.

For course description, see FDST 430/830.

**801. Statistical Methods in Research** (4 cr I, II) Lec 3, lab 2. Prereq: BIOM 201 or STAT 180 or permission.

**802. Experimental Design** (4 cr I, II) Lec 3, lab 2. Prereq: BIOM 801.

**810. Survey of Multivariate Techniques in Biometry** (3 cr I) Lec 3. Prereq: BIOM 801 or equivalent.

**889. Biometry Seminar** (1 cr) Prereq: Permission.

**896. Independent Study in Biometry** (1-5 cr I, II, III) Prereq: 12 hours biometry, mathematics, or closely related areas or permission.

**898. Biometry Project** (1 cr) Prereq: Permission.

**899. Biometry Thesis** (1-6 cr) Prereq: Permission.

Refer to the Graduate Bulletin for 900-level courses.

## Crop Protection

### Crop Protection Curriculum Committee

Chair: Professor Z B Mayo, Department of Entomology

Professor: Mortensen (agronomy)

Associate Professor: Partridge (plant pathology)

The crop protection curriculum is designed to give students a background in crop protection concepts and prepare them for career opportunities with state and federal agricultural and environmental agencies, industry, and a wide variety of scientific, educational, and service enterprises. In addition to the crop protection core curriculum, students should meet the requirement of either the entomology option, plant pathology option, or the weed science option. The Crop Protection Curriculum Committee in the College of Agricultural Sciences and Natural Resources serves as the administrative body for this major and is responsible for advising students selecting this major.

## Major Requirements

	Hours
<b>College Integrative Courses</b> .....	<b>6</b>
AGRI 103 Food, Agriculture & Natural Resource Systems .....	3
Capstone Course.....	3
Consult your adviser regarding this requirement.	
<b>Agricultural Sciences</b> .....	<b>20</b>
AGRO 131 Crop Science .....	4
or HORT 130 Intro to Horticulture	
AGRO 153 Soil Resources .....	4
AGRO 220 Principles of Weed Science.....	3
ENTO 115 General & Applied Entomology .....	3
PLPT 369 Intro to Plant Pathology .....	3
<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	<b>5</b>
BIOM 201 Intro to Biometry .....	3
MATH 102 Trigonometry .....	2

### Communications.....

Written Communication .....

    Select from: ENGL 150, 151, 254, 255; CURR 120; JGEN 200 or 300

Oral Communication .....

    Select from: COMM 109, 209, 212, or 311

Communication and Interpersonal Skills elective .....

    Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212, or 311

### Natural Sciences.....

AGRO 315 Genetics .....

    or BIOS 241 General Genetics

BIOS 101 and 101L General Biology .....

    4

BIOS 109 General Botany .....

    4

BIOS 112 General Zoology .....

    4

BIOS 320 Principles of Ecology .....

    3

BIOS 322 Principles of Ecology Lab .....

    1

CHEM 109 General Chemistry I .....

    4

CHEM 110 General Chemistry II .....

    4

CHEM 251 Organic Chemistry .....

    3

CHEM 253 Organic Chemistry Lab .....

    1

PHYS/ASTR 141 Elementary General Physics .....

    5

### Humanities and Social Sciences.....

ECON 211 or 212 or AECN 141 .....

    3

Essential Studies .....

    15

Select one 3-credit course in each of the following five

CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)

Human Behavior, Culture & Social Organization

Historical Studies

Humanities

Arts

Race, Ethnicity & Gender

Elective .....

    3  
To be selected from lower level modern language courses or from one of the CASNR Essential Studies categories above.

### Required Credit Hours in Crop Protection

Core .....

    95

Option Requirements .....

    20

Free Electives .....

    13

NOTE: One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

### Minimum Hours Required for Graduation ...

## Entomology Option

The entomology option offers a balanced program in the agricultural and biological sciences and will prepare students for employment in a wide range of scientific, educational, and service enterprises, or serve as a foundation for graduate studies in entomology, crop protection, or closely related disciplines.

### Hours

### Agricultural Sciences.....

    11

AGRI 200 Intro to Pesticides & Their Use .....

    2

ENTO 303 Horticultural Insects .....

    2

ENTO 308 Management of Field Crop Insects .....

    3

ENTO 400 Biology & Classification of Insects .....

    4

### Biological Sciences.....

    3-4

Choose one of the following courses:

    BIOC 321 Elements of Biochemistry (4 cr)

    BIOS 312 Fundamentals of Microbiology (3 cr)

    PLPT 464 Advanced Plant Pathology (3 cr)

### Option Electives.....

    5-6

    Consult with your adviser to determine elective possibilities

### Required Credit Hours in Crop Protection

Core .....

    95

### Required Credit Hours in Entomology

Option.....

    20

Free Electives .....

    13

### Total Credit Hours Required for Graduation.....

    128

## Plant Pathology Option

The plant pathology option prepares students for graduate school (Track B) or for employment with industry (Track A) needing plant pathology expertise. Students choosing this option should be prepared to handle basic science and mathematics courses.

### Track A

### Hours

### Agricultural Sciences .....

    12

    AECN 201 Production Economics & Farm Management .....

    4

    AGRO 204 Field Crop Production .....

    3

    AGRO 269 Principles of Soil Management .....

    3

    AGRO 403 Fundamentals of Crop Physiology .....

    2

### Biological Sciences .....

    8

    BIOS 471 Plant Taxonomy .....

    4

    BIOS 478 Plant Anatomy .....

    4

### Required Credit Hours in Crop Protection

Core .....

    95

### Required Credit Hours in Plant Pathology

Option-Track A .....

    20

Free Electives .....

    13

### Total Credit Hours Required for Graduation .....

    128

## Weed Science Option

### Hours

### Agricultural Sciences .....

    3-12

    AGRI 200 Intro to Pesticides & Their Use .....

    2

    AGRO 204 Resource-Efficient Crop Management .....

    3-4

    or AGRO 240 Forage Crop & Range Management (4 cr)

    or AGRO 269 Principles of Soil Management .....

    3

    ENTO 308 Management of Field Crop Insects .....

    2-3

    or ENT0 203 Horticultural Insects (2 cr)

### Biological Sciences .....

    12

    BIOC 321 Elements of Biochemistry .....

    4

    BIOS 325 Intro to Plant Physiology .....

    4

    or AGRO 403 Fundamentals of Crop Physiology and AGRO 404 Field Crop Physiology

    or AGRO 441 Forage & Range Physiology (2 cr each)

    BIOS 471 Plant Taxonomy .....

    4

### Option Electives .....

    4-6

    Consult with your adviser to determine elective possibilities

### Required Credit Hours in Crop Protection

Core .....

    95

### Required Credit Hours in Weed Science

Option .....

    20

Free Electives .....

    13

### Total Credit Hours Required for Graduation .....

    128

## 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 220, Principles of Weed Science, 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 Crop Protection 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.

## Diversified Agricultural Studies

**Coordinator:** Jack L. Schinstock, 103 Ag Hall

The diversified Agricultural Studies major is designed for the intellectually aggressive student who seeks a broad education in the agricultural sciences combined with essential studies in the natural sciences, mathematics, leadership, communications skills, humanities and social sciences. The Diversified Agricultural Studies major may also be an appropriate initial major for students who may be undecided about which area of the agricultural sciences they wish to pursue.

A Diversified Agricultural Studies major will take classes that provide a broad education in the agricultural sciences. To assist in developing a course of study in this major, there are minimum requirements and broad guidelines which provide maximum flexibility for individualizing a program. The broad requirements in the major are four courses in agricultural production and production management, two courses in product utilization, two courses in commodity protection, four courses in economics and management and three courses in resource characterization. Furthermore, students must have courses in four different College of Agricultural Sciences and Natural Resources program areas. In addition, upper division requirements and electives allow you to build competence in one or more areas of agriculture.

**Hours**

<b>College Integrative Courses</b> .....	<b>6</b>
AGRI 103 Food, Agriculture & Natural Resource Systems.....	3
Capstone Course .....	3
<i>Consult your adviser regarding which courses fulfill this requirement.</i>	
<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	<b>5</b>
<i>Includes statistics and PHIL 211 Intro to Modern Logic.</i>	
<b>NOTE:</b> Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work.	
<b>Communication</b> .....	<b>9</b>
Written Communication.....	3
<i>Select from: ENGL 150, 151, 254, 255; CURR 120; JGEN 200 or 300</i>	
Oral Communication .....	3
<i>Select from: COMM 109, 209, 212 or 311</i>	

Communication and Interpersonal Skills electives...3	
<i>Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212, or 311</i>	
<b>Natural Sciences</b> .....	<b>16</b>
AGRO 315 Genetics .....	4
<i>or BIOS 241 General Genetics</i>	
BIOS 101 and 101L General Biology .....	4
CHEM 109 General Chemistry .....	4
MSYM 109 Physical Principles in Agriculture .....	4
<i>or PHYS 141 Elementary General Physics (5 cr) or PHYS 151 Elements of Physics (4 cr)</i>	
<b>Humanities and Social Sciences</b> .....	<b>21</b>
ECON 211 or 212 or AECN 141 .....	3
Essential Studies .....	15
<i>Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)</i>	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
<i>To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.</i>	

## Major Requirements

<b>Agricultural Sciences</b> <sup>4</sup> .....	<b>43-45</b>
A minimum of 20 hours must be completed at the 200 level or above and a minimum of 10 hours must be completed at the 300 level or above. In meeting degree requirements, students must have a course in four CASNR departments or program areas.	
Production and Production Management .....	12
<i>Must include:</i> course work in at least two of the following departments: agronomy, animal science, horticulture, mechanized systems management.	
<i>Select from: AGRO 131, 204, 240, 269, 366, 405; ASCI 100, 150, 200, 240, 250, 300B, 300D, 300E, 320, 330, 340, 341, 351, 360, 450, 452, 453, 454, 455, 456, 457; ENTO 109; NRES 310; HORT 130, 221, 260, 325, 327, 350, 351, 362; MSYM 232, 242, 245, 312, 452, 485</i>	
Commodity Protection.....	5-6
<i>Select from: AGRI 200; AGRO 220; ENTO 115, 116, 203, 308, 409; FDST 403, 405, 406, 425; NRES 348; MSYM 342, 364; PLPT 369; VBMS 303, 441</i>	
Utilization.....	5-6
<i>Select from: ASCI 210, 211, 300A, 310, 410; FDST 101, 203, 270, 412, 418 (ASCI 418), 429, 455; HORT 170, 200, 261, 262, 266, 339, 341, 343, 417</i>	
Economics and Management.....	12
<i>Must include:</i> 9 cr hours in agricultural economics.	
<i>Select from: all AECN except 388; ALEC 202; NRES 423; MSYM 462</i>	
Resource Characterization.....	9
<i>Select from: AGRO 340, 361, 440, 442, 444, 445 (ASCI 451), 477; HORT 212 (NRES 212), 213 (NRES 213), 408 (AGRO/GEOG/NRES, 408; BIOS 457), 425 (AGRO 425); MSYM 354; NRES 211, 224, 311, 323, 350; SOIL 153 (AGRO 153)</i>	
<b>NOTE:</b> One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.	
<b>Free Electives</b> <sup>5</sup> .....	<b>26-28</b>
<b>Credits Required for Graduation</b> .....	<b>128</b>

## Diversified Agricultural Studies Minor

Students may obtain a minor in diversified agricultural studies by satisfactorily completing a minimum of 18 credit hours of work in courses offered by CASNR. At least 9 hours of the agricultural sciences courses must be at the 200 level or above, 6 hours at the 300 level or above, and a student must complete at least one 2-or-more-credit-hour course in each of **three** of the following general areas:

- Animal Sciences** (animal science; forestry, fisheries and wildlife; or veterinary and biomedical science)
- Plant Sciences** (agronomy; horticulture; or forestry, fisheries and wildlife)
- Crop and Commodity Protection** (entomology; weed science; AGRI 200; FDST 403, 405, 406, 425; NRES 348; MSYM 342, 364; plant pathology or VBMS 303, 304)
- Agricultural Economics**
- Agricultural Leadership, Education and Communication; Food Science and Technology; Mechanized Systems Management; or Soil Science.**

## Entomology

*An option in entomology is offered under the crop protection major.*

**Head:** Professor Z B Mayo, Department of Entomology

**Professors:** Boxendale, Foster, Higley, Keith, Meinke, Siegfried, Stanley

**Associate Professor:** Danielson

**Assistant Professors:** Berkebile, Ellis, Skoda

## Courses of Instruction (ENTO)

[ES][IS] **108. Insects, Science and Society** (BIOS 108) (3 cr I) Lec 3. *This course will not count for credit toward the biological sciences major nor will it fulfill the natural science requirement in the College of Arts and Sciences.*

Non-technical, entertaining introduction to insect biology, the impact of insects on human culture and history, and topical issues, including pesticides and the environment, new pests and diseases, and threats to ecosystems. Using insects as a focus, it will address 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.

[ES] **115. Insect Biology** (BIOS 115) (2 cr I, II) Lec 2. Fundamental insect biology (anatomy, development, physiology, behavior, ecology and diversity). Principles and tactics of insect pest management.

[ES] **116. Insect Identification** (BIOS 116) (1 cr I, II) 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.

**300. Toxins in the Environment** (BIOS, NRES 300) (2 cr II) Prereq: One semester biology and one semester chemistry. Offered spring semester of odd-numbered calendar years.

Introduction to the principles of toxicology as they apply to environmental contaminants, emphasizing agrochemicals, but also including industrial and naturally occurring chemicals.

4. May not include independent studies, special problems, career or industrial experience, or study tour.
5. For the agricultural journalism major dual majoring with diversified agricultural studies, at least 3 hours must be taken through the humanities and social sciences requirement in the agricultural sciences degree requirements.

**303. Horticultural Insects** (3 cr I) Lec 2, lab 2. Prereq: BIOS 101 and 101L, or ENTO 115 or permission. ENTO 116 recommended. 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. 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. *P/N only. Course must be concluded with preparation of a written report.* Career experience in applied practices is provided via employment with an entomology-related agency, business or industry, research, extension, or teaching activity.

**400/800. Biology and Classification of Insects** (4 cr I) Lec 3, lab 3. Prereq: ENTO 115 or graduate standing. *Offered 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 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 II) Lec 2. Prereq: 12 hrs biological sciences or permission. Biology and ecology of aquatic insects.

**402L/802L. Identification of Aquatic Insects** (NRES 402L/802L; BIOS 485L/885L) (1 cr II) Lab 1. Prereq: Parallel ENTO/NRES 402/802/BIOS 485/885. Identification of aquatic insects to the family level.

**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 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.

**405/805. Veterinary Entomology** (ASCI, NRES 405/805; VBMS 406/806) (2 cr I) 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.

**405L/805L. Veterinary Entomology Lab** (ASCI, NRES 405L/805L; VBMS 406L/806L) (1 cr I) Prereq: ENTO/ASCI/NRES 405/805; VBMS 406/806; or parallel.

**406/806. Insect Ecology** (BIOS 406/806) (3 cr II) Lec 3. Prereq: BIOS 320 and 322. *Offered even-numbered calendar years.* Interrelationships of 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 of odd-numbered years.*

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 odd-numbered calendar years.*

Nature and mechanisms of plant resistance to insect attack and the utilization of resistance for insect control.

**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.

**496/896. Independent Study in Entomology** (1-6 cr 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 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.

**817. Pest Management Systems** (3 cr I) Lec 3. Prereq: 10 hours of entomology and crop production courses or permission. *Offered odd-numbered calendar years.*

**820. Insect Toxicology** (2 cr II) Lec 1. Prereq: 12 hours of biological sciences, 4 hrs of organic chemistry or permission. *Offered even-numbered calendar years.*

**821. Insect Toxicology Laboratory** (1 cr II) Lab 3. Parallel registration in ENTO 820. *Offered even-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 even-numbered calendar years.*

**899. Masters Thesis** (6-10 cr I, II, III)

Refer to the Graduate Bulletin for 900-level courses.

## 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.

Advisers for the minor are assigned by the Head of the Department of Entomology.

## Food Science and Technology

**Head: Professor Steve Taylor**, Department of Food Science and Technology

**Professors:** Bullerman, Cuppett, Hanna, Rupnow, Wehling, Zeece

**Associate Professors:** Hutzkins, Jackson, Meagher, Smith, Weller

**Assistant Professors:** Benson, Brashears, Hefle, McKee-Hensarling, Schlegel

Food science and technology majors 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 major curriculum includes a balance of courses in food science, biological sciences, physical sciences, mathematics, and social sciences and humanities. Food science courses include food processing, food engineering, food analysis, food chemistry, food microbiology, nutrition, quality assurance and commodity processing courses. Five options—science, technology, business, international, and food service/nutrition—are offered. Students may participate in an internship program that provides summer employment in the food industry.

## Major Requirements

	Hours
<b>College Integrative Courses</b> .....	<b>6</b>
AGRI 103 Food, Agriculture & Natural Resource Systems .....	3
FDST 460 Concepts of Food Product Development .....	3
<b>Natural Sciences</b> .....	<b>32-33</b>
BIOC 321 and 321L Elements of Biochemistry (3 cr) and Lab (1 cr) .....	4-5
or BIOC 431 Biochemistry (3 cr) and BIOC 433 Biochemistry Lab (2 cr)	
BIOS 101 and 101L General Biology and Lab .....	4
BIOS 109 General Botany .....	4
or BIOS 112 Intro to Zoology (4 cr)	
BIOS 312 Fundamentals of Microbiology .....	3
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
CHEM 251 Organic Chemistry .....	3
CHEM 253 Organic Chemistry Lab .....	1
MSYM 109 and 109L Physical Principles in Agriculture (4 cr) and Lab (1 cr) .....	5
or PHYS 151 Elements of Physics (4 cr) and PHYS 153 Elements of Physics Lab (1 cr)	
<b>Mathematics and Analytical Skills</b> .....	<b>5</b>
BIOM 201 Intro to Biometrics .....	3
or STAT 180 Elements of Statistics or ECON 215 Statistics	
MATH 102 Trigonometry .....	2
<b>Communications</b> .....	<b>9</b>
JGEN 200 or 300 Technical Communication .....	3
Oral Communication .....	3
Select from: COMM 109, 209, 212, or 311	
Communication and Interpersonal Skills .....	3
Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; COMM 109, 209, 212, or 311	
<b>Humanities and Social Sciences</b> .....	<b>21</b>
ECON 211 or 212 or AECN 141 .....	3
Essential Studies .....	15
Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.	
<b>NOTE:</b> One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.	
<b>Food Science &amp; Technology Requirements</b> ... 35	
FDST 132 Practicum in Food Science .....	1
Core Courses .....	6
FDST 101 Human Food Resources (2 cr)	
FDST 403 Quality Assurance of Foods (2 cr)	
FDST 451 Food Science & Technology Seminar (2 cr)	
Process Technology .....	13
FDST 203 Food Composition (2 cr)	
FDST 464 Heat & Mass Transfer (2 cr)	
FDST 465 Food Engineering Unit Operations (3 cr)	
Choose two of the following courses:	
FDST 412 Cereal Technology (3 cr)	
FDST 418 Eggs & Egg Products (3 cr)	
FDST 429 Dairy Products Technology (3 cr)	
ASCI 310 Fresh Meats or ASCI 410 Processed Meats (3 cr)	
FDST 420 Post-Harvest Physiology (3 cr)	
FDST 455 Bioprocessing of Foods (3 cr)	
Food Chemistry .....	7
FDST 207 Analysis & Properties of Food Products (3 cr)	
FDST 448 Food Chemistry (3 cr)	
FDST 449 Food Chemistry Lab (1 cr)	
Food Microbiology .....	5
FDST 405 Food Microbiology (3 cr)	
FDST 406 Food Microbiology Lab (2 cr)	

Nutrition.....	3
<i>Choose one of the following courses:</i>	
ASCI 421 Advanced Animal Nutrition (3 cr)	
NUTR 455 Advanced Nutrition (3 cr)	
<b>Option Requirements and Electives.....</b>	<b>19-20</b>
<b>Minimum Requirements for Graduation ....</b>	<b>128</b>

## Business Option

The business option allows students to emphasize business disciplines for application to the food industry. A graduate with this option might enter a management trainee program with the food industry or might consider further formal training in business. Other employment opportunities include technical sales and government service.

	<b>Hours</b>
<b>Business Option Requirements .....</b>	<b>16-18</b>
MATH 104 Calculus for Managerial & Social Sciences.....	3
ACCT 201 and 202 Introductory Accounting.....	6
or ACCT 306 Survey of Accounting (4 cr)	
Selected Business courses.....	9
<i>Choose one course each from three of the following four areas:</i>	
<b>Business Law</b>	
AECN 256 Legal Aspects in Agriculture (3 cr)	
BLAW 371 Legal Environment (3 cr)	
BLAW 372 Business Law I (3 cr)	
<b>Finance</b>	
AECN 452 Agricultural Finance (3 cr)	
ECON 303 An Intro to Money & Banking (3 cr)	
FINA 361 Finance (3 cr)	
FINA 365 Financial Institutions & Markets (3 cr)	
<b>Management</b>	
AECN 316 Agricultural Business Management (3 cr)	
MNGT 331 Operations & Resources Management (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
<b>Marketing</b>	
MRKT 341 Marketing (3 cr)	
MRKT 345 Market Research (3 cr)	
MRKT 346 Marketing Channels Management (3 cr)	
MRKT 347 Marketing Communication Strategy (3 cr)	
MRKT 425 Retailing Management (3 cr)	
MRKT 442 Marketing Management (3 cr)	
<b>Electives (to total 128 hours).....</b>	<b>1-4</b>

## Foodservice/Nutrition Option

This option provides additional training in human nutrition and foodservice management for students who, in their capacity as food scientists, will interface with dietitians, nutritionists, and institutional food management personnel. The foodservice/nutrition option does not meet all of the requirements for certification as a registered dietitian by the American Dietetics Association. Certification can be obtained by further study at the undergraduate or graduate level, by meeting specific requirements of experience in dietetics and by passing a registration examination. A student in this option should check with his or her adviser for specific details on certification procedures.

	<b>Hours</b>
<b>Nutrition Option Requirements.....</b>	<b>16</b>
<i>NOTE: NUTR 455 should be selected from the core requirements. SOCI 101 and PSYC 181 should be selected as humanities and social science electives.</i>	
BIOS 213 Human Physiology .....	4
MATH 104 Calculus for Managerial & Social Sciences.....	3
MNGT 360 Managing Behavior in Organizations ..	3
or MNGT 361 Personnel/Human Resource Management (3 cr)	

Nutritional Science and Dietetics.....	6-7
<i>Choose at least two of the following:</i>	
NUTR 244 Scientific Principles of Food Preparation (3 cr) and NUTR 245 Scientific Principles of Food Preparation Lab (1 cr)	
NUTR 370 Food Production Management (3 cr)	
NUTR 452 Medical Nutrition Therapy (3 cr)	
<b>Electives (to total 128 hours).....</b>	<b>2-4</b>

## International Option

The international option prepares students for food industry and government positions in the international community. Most food firms today have increased interaction with the world markets. In fact, many US firms have processing facilities and offices in several foreign countries. Also, there are rewarding positions in government for development of the food processing industry in the lesser developed countries and those countries wanting to diversify their food industries.

	<b>Hours</b>
<b>International Option Requirements.....</b>	<b>22-24</b>
MATH 104 Calculus for Managerial & Social Sciences .....	3
Foreign Language .....	10
<i>Choose one language:</i>	
Chinese, French, German, Italian, Japanese, Portuguese, Russian, Spanish	
International Studies .....	9-11

<i>Select from:</i>	
International Affairs, Asian Studies, European Studies, Latino and Latin American Studies; international marketing and international management are especially recommended.	
<b>Internship .....</b>	<b>arr</b>
Summer or semester internships in other countries are encouraged; credit can be arranged for these internships with adviser approval.	

<b>Hours Needed to Graduate with this Option .....</b>	<b>131-133</b>
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## Science Option

The science option in food science and technology is designed for students who desire a technical career within the food industry, involving the application of the basic scientific disciplines to food industry problems. Opportunities for science option graduates include quality assurance, product development, and food research work. Major food companies and government agencies maintain facilities devoted to technical work in food science. Many students use the science option as a foundation for graduate study toward masters and doctoral degrees.

	<b>Hours</b>
<b>Science Option Requirements .....</b>	<b>13</b>
CHEM 221 Elementary Quantitative Analysis .....	4
CHEM 252 Organic Chemistry .....	3
CHEM 254 Organic Chemistry Lab .....	1
MATH 106 Analytic Geometry & Calculus I .....	5
<b>Electives (to total 128 hours).....</b>	<b>6-7</b>

## Technology Option

The technology option is designed for students who want specialized training in the processing of food commodities. Employment opportunities are found in product development and research, quality control, plant management and operations in food industries related to food processing.

	<b>Hours</b>
<b>Technology Option Requirements.....</b>	<b>15-17</b>
AGRI 271 An Intro to Computer Applications in Agriculture .....	3
MATH 104 Calculus for Managerial & Social Sciences .....	3
or MATH 106 Analytic Geometry & Calculus I (5 cr)	

Additional Food Processing courses .....	3-6
These courses are taken in addition to the major core requirements. Students may use these credits in conjunction with the core requirements to select an area of emphasis (meats or dairy), or to survey a wider area of commodity processing technologies.	

<i>Select from the following courses:</i>	
ASCI 210 Animal Products (3 cr), 211 Meat Technology Lab (2 cr), 310 Fresh Meats (3 cr), 410 Processed Meats (3 cr);	
FDST 412 Cereal Technology (3 cr), 418 Eggs & Egg Products (3 cr), 419 Meat Investigations (1-3 cr), 420 Postharvest Physiology & Food Processing (3 cr), 429 Dairy Products Technology (3 cr), 455 Bioprocessing of Foods (3 cr), or other courses as approved by the adviser.	

<b>Option Electives .....</b>	<b>3-6</b>
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<i>Select from the following courses:</i>	
MNGT 360 Managing Behavior in Organizations (3 cr);	
IMSE 315 Work Analysis & Measurement, 417 Occupational Safety Hygiene Engineering (3 cr);	
MSYM 245 Electrical Service Systems, 312 Engine Power Systems, 364 Agricultural Products Processing & Handling (3 cr), 412 Hydraulic Power Systems (3 cr), 416 Sensors & Control Systems for Agri-Industries (3 cr)	

<b>Electives (to total 128 hrs).....</b>	<b>2-5</b>
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## 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:

	<b>Hours</b>
<b>Core Courses.....</b>	<b>11</b>
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 464 Heat & Mass Transfer (MYSM) ..	2
or FDST 465 Food Engineering Unit Operations (MYSM) (3 cr)	
Additional FDST course at the 300 or 400 level ...	1-3

### 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.

	<b>Hours</b>
<b>Core Courses.....</b>	<b>7-8</b>
FDST 101 Human Food Resources .....	2
or FDST 131 The Science of Food (CHEM, NUTR) (3 cr)	
FDST 203 Food Composition .....	2
FDST 207 Analysis & Properties of Food Products.....	3
Additional FDST courses .....	10-11

## Courses of Instruction (FDST)

<b>[ES][IS] 101. Human Food Resources</b> (2 cr I) Lec 2.	
Man's development of his food supply to the present and the meeting of future needs. Specific attention given to the history and current developments of food preservation, food acceptance, food quality, and properties of foods. Ways that government and industry assure consumers protection for a safe, nutritious food. Introduction to foods of the future.	

**[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).

**132. Introductory Practicum in Food Science and Technology (1 cr I) Lab 3.**

Prereq:

Freshman standing or permission.

In-depth experience in several areas, including food processing, food preservation, nutrition, food safety, food quality, and food marketing. Actual food processing procedures and equipment, and examining food using microbiological and chemical procedures.

**203. Food Composition (2 cr I) Lec 2.**

Prereq:

FDST 101 or 132 or permission.

Understanding the role of composition in flavor, color, texture and nutritional properties of foods. The effect of food processing on composition. Food additives as they affect flavor, functional and nutritional attributes of processed foods.

**207. Analysis and Properties of Food Products (3 cr II)**

Lec 2, lab 3.

Prereq: CHEM 109 and 110; FDST 203; or

permission; CHEM 116 or 221 recommended.

Chemical and instrumental methods for proximate analysis of foods, contaminants, and food quality parameters.

**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)**

Prereq: Permission.

Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.

**403/803. Quality Assurance of Foods (2 cr II) Lec 2.**

Prereq: FDST 207; BIOM 201 or ECON 215 or MATH 180, or equivalent; senior standing recommended.

Quality assurance systems used by the food industry and governmental agencies. Emphasis on public health reasons for regulatory standards and the use of chemical and microbiological tests in enforcement procedures.

**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 II) Lec 2, lab 4.**

Prereq: FDST 203, or permission.

*Offered spring semester of even-numbered calendar years.*

Chemistry and technology of the cereal grains, with emphasis on their post-harvest processing and utilization for food and feed. Current industrial processes and practices, with an explanation of the theoretical basis for these operations.

**418/818. Eggs and Egg Products (ASCI 418/818) (3 cr I)**

Lec 2, lab 3.

Prereq: FDST 203, or permission.

*Offered fall semester of odd-numbered calendar years.*

Chemistry of egg proteins as they relate to physical and functional properties. Freezing, dehydration, thermal processing, and new processing technologies.

**419/819. Meat Investigations (ASCI 419/819) (1-3 cr I, II, III)**

Prereq: ASCI 210 or permission.

For course description, see ASCI 419/819.

**420/820. Postharvest Physiology and Food Processing (HORT 420/820) (3 cr I) Lec 2, lab 2.**

Prereq: CHEM 251; BIOS 269, 312; or permission.

*Offered fall semester of even-numbered calendar years.*

Biological processes of ripening/maturation in fruits and vegetables and their effect on the quality of the final processed product. Introduce new food processing technologies and their impact on the fruit and vegetable processing industry.

**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 foodborne toxicants.

**429/829. Dairy Products Technology (3 cr II) Lec 2, lab 3.**

Prereq: FDST 203.

*Offered spring semester of odd-numbered calendar years.*

Principles of processing fluid dairy products and manufacture of frozen, dried, and cultured dairy products, cheeses, and spreads. Processing procedures, equipment and costs, quality factors, quality and composition tests, grades and inspection, regulation and new developments in products or processes.

**430/830. Sensory Evaluation (BIOM 430/830) (3 cr II)**

Lec 2, lab 3.

Prereq: STAT 180 or BIOM 201; 12 hrs of food science or permission; senior standing recommended.

*Offered fall semester of odd-numbered calendar years.*

Introduction to the area of sensory evaluation. Students design a project and conduct basic sensory evaluation tests, with emphasis on difference/similarity and acceptance/preference tests; brief exposure to descriptive analysis. All tests conducted accompanied by intense statistical design, analysis, interpretation and presentation of data.

**441/841. Functional Properties of Food (NUTR 441/841) (3 cr I) (UNL) Lec 2, lab 3.**

Prereq: NUTR 340 and BIOC 321 or FDST 448/848 or permission.

Examination of the relationship of structure and functionality of ingredients in food systems.

**445/845. Experimental Foods (NUTR 445/845) (3 cr I) (UNL) Lec 1, lab 6.**

Prereq: NUTR 340, BIOC 321 or permission.

Introduction to food research; application of research techniques to selected problems.

**448/848. Food Chemistry (3 cr I) Lec 3.**

Prereq: FDST 207, CHEM 251, BIOC 321, or permission.

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 203 and 207; FDST 448/848 or parallel; BIOC 321; or permission.

Selected experiments involving the isolation, purification, and characterization of the molecular components of foods.

**[IS] 451. Food Science and Technology Seminar (1-2 cr II)**

Prereq: Permission.

Critical study of various phases of food science literature and research work. Assigned readings and reports.

**455/855. Bioprocessing of Foods (3 cr II) Lec 2, lab 3.**

Prereq: FDST 405/805, 448/848.

*Offered spring semester of even-numbered calendar years.*

Controlling factors and industrial application of natural conversion of raw food materials to fermented foods for human consumption.

**[IS] 460/860. Concepts of Product Development<sup>1</sup> (3 cr II) Lec/dem 3.**

Prereq: FDST 405/805, 448/848; ECON 211 or ACEN 141, or permission.

Methods employed in new product development and product improvement in the food industry. Emphasis on the organization of product development divisions within different types of companies; sequence of events involved in product development; developmental and testing procedures employed in product development; marketing regulations; labeling requirements; and procedures for obtaining patents and trademarks. Techniques used in forecasting future product needs. Students will participate in a food product development project.

**464/864. Heat and Mass Transfer (MSYM 464/864) (2 cr I) Lec 2.**

Prereq: MATH 104 or 106; MSYM 109 or PHYS/ASTR 141; or permission.

Fundamentals of food engineering including material and energy balances, fluid mechanics, heat transfer, and mass transfer.

**465/865. Food Engineering Unit Operations (MSYM 465/865) (3 cr II) Lec 2, lab 3.**

Prereq: FDST 464/864; or permission.

Unit operations and their applications to food processing.

**490. Food Industry Experience (1-3 cr I)**

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 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 II)***Offered spring semester of odd-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.***886. 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 (1-24 cr)**

Refer to the Graduate Bulletin for 900-level courses.

## Horticulture

**Head: Professor David T. Lewis, Department of Horticulture****Professors:** Coyne, Fitzgerald, Gustafson, Horst, Paparozzi, Read, Riordan, Shearman, Steinegger**Associate Professors:** Austin, Gaussoin, Hodges, Smith, Sutton**Assistant Professors:** Rodie**Industry Partner/Instructors:** Lambe, 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 majors in horticulture: horticulture science, horticulture production, landscape design, horticulture communications, horticulture business, and turfgrass.

Horticulture majors 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 majors 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.

## Upper Division Status—Horticulture Majors

To achieve upper division status in the horticulture major, a student must successfully complete the following 53 semester hours with a minimum cumulative grade point average of 2.5 (C+), complete the course prerequisites and **must achieve a grade of 2.0 (C) or higher in all horticulture courses.** All horticulture majors enrolling in 300- and/or 400-level horticulture courses must be Upper Division Qualified.

To be Upper Division Qualified, a student must successfully complete the course prerequisites and the following courses:

	Hours
AGRI/NRES 103 Food, Agriculture, & Natural Resource Systems.....	3
AGRO 153 Soil Resources.....	4
HORT 130 Intro to Horticulture.....	4
HORT 200 Landscape Appreciation.....	3
HORT 221 Plant Propagation.....	3
BIOS 101 & 101L General Biology & Lab .....	4
BIOS 109 General Botany.....	4
CHEM 109 General Chemistry.....	4
MSYM 109 Physical Principles in Agriculture .... 4-5 or PHYS 141 Elementary General Physics (5 cr) or PHYS 151 (4 cr) or PHYS 211 (4 cr)	4-5
Mathematics (beyond college algebra).....	2-6 <i>Includes: STAT 180 Statistics (3 cr) and PHIL 211 Intro to Modern Logic (3 cr); meet mathematics requirement for the appropriate option.</i>
<b>NOTE: The major requirement for horticulture is 5 hours beyond college algebra.</b>	
Communications .....	6
Written Communication.....	3 <i>Select from: ENGL 150, 151, 254, 255; CURR 120; JGEN 200, 300</i>
Oral Communication .....	3 <i>Select from: COMM 109, 209, 212, or 311</i>
<b>Upper Division Qualification Hours .....</b>	<b>44-46</b>
Additional Horticulture Major/Option Hours and Electives.....	9-7
<b>TOTAL HOURS .....</b>	<b>53</b>

**NOTE:** Students enrolled as horticulture majors, who fail to meet any of these requirements will not be allowed to enroll in 300- and/or 400-level horticulture courses.

Students who are in their last semester of course prerequisites and are in courses required to become Upper Division Qualified may concurrently enroll in 300- or 400-level horticulture courses providing they have satisfied the grade point average and course prerequisites.

Careful planning is required to meet these Upper Division Qualification requirements. Specific course prerequisites for these courses require careful planning and sequencing beginning in the first year. **This careful course planning and course sequencing is the responsibility of the student.** Questions regarding this should be addressed to the student's academic adviser.

When a student has satisfied these requirements, the student must file an Upper Division Qualification check list/form in horticulture. This check list/form is signed by the student, the student's adviser, and the department head indicating the student has successfully completed the Upper Division Qualification requirements.

Once a student has become Upper Division Qualified and filed the check list/form; an Upper Division Qualified student must maintain a minimum of 2.5 (C+) in all horticulture courses and a minimum of 2.0 (C) GPA to continue to take courses toward a degree with a major in horticulture. Students who transfer to horticulture from other colleges or institutions must meet the same requirements. Students who do not meet these requirements may not continue in horticulture until the above requirements are fulfilled. Students who do not meet these requirements must enroll in Diversified Agricultural Studies in the College of Agricultural Sciences and Natural Resources, or any other major, until they meet the above requirements to become Upper Division Qualified in horticulture.

Horticulture majors who enroll in 300- or 400-level horticulture courses without meeting the criteria listed above, **will be administratively withdrawn from the courses. Even if administratively withdrawn, it is the student's responsibility to drop the course(s).**

## Major Requirements

The following core of basic courses is required for majors in horticulture. In addition to the minimum requirements for the curriculum, students must select and meet the requirements of one of the options.

	Hours
<b>Agricultural Sciences .....</b>	<b>32</b>
AGRI 103 Food, Agriculture & Natural Resource Systems .....	3
AGRO 153 Soil Resources .....	4
ENTO 115 General & Applied Entomology .....	2
ENTO 116 Insect Identification .....	1
HORT 130 Intro to Horticulture .....	4
HORT 200 Landscape & Environmental Appreciation .....	3
HORT 221 Plant Propagation .....	3
HORT 212 Landscape Plants I .....	3
HORT 213 Landscape Plants II .....	3
HORT 327 Turf Management .....	3
HORT 398 Career Experience <sup>1</sup> .....	3
or HORT 399 Independent Study (3 cr) <sup>1</sup> .....	3
<b>Biological Sciences .....</b>	<b>8</b>
BIOS 101 and 101L General Biology and Lab .....	4
BIOS 109 General Botany .....	4
<b>Physical Sciences .....</b>	<b>8-9</b>
CHEM 109 General Chemistry I .....	4
MSYM 109 Physical Principles in Agriculture .... 4-5 or PHYS 141 Elementary General Physics (5 cr) or PHYS 151 (4 cr) or PHYS 211 (4 cr)	4-5
<b>Mathematics (beyond college algebra) .....</b>	<b>5</b>
<i>See option requirements.</i>	
<b>Communications .....</b>	<b>9</b>
Written Communication .....	3 <i>Select from: ENGL 150, 151, 254, 255; CURR 120 or JGEN 200 or 300</i>
Oral Communication .....	3 <i>Select from: COMM 109, 209, 212 or 311</i>
Communication and Interpersonal Skills Elective ...3	
<i>Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; JGEN 200 or 300; COMM 109, 209, 212 or 311</i>	
<b>Humanities and Social Sciences .....</b>	<b>21</b>
ECON 211 or 212 or AECN 141 .....	3
Essential Studies .....	15
<i>Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)</i>	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
<i>To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.</i>	
<b>Total Horticulture Core.....</b>	<b>78-79</b>
<b>Option Requirements and Electives.....</b>	<b>50-61</b>

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

**Minimum Credit Hours Required for Graduation .....**

Minimum credit hours required in landscape design, are 136-140.

*Suggested electives include:*

**Agricultural Sciences courses**

AGRI 271 Intro to Computer Applications in Agriculture  
AGRI 388 Employment Seminar

**Agronomy courses**

AGRO 220 Principles of Weed Science  
AGRO 361 Soils, Environment & Water Quality  
AGRO 440 The Range Ecosystem  
AGRO 441 Forage & Range Physiology  
AGRO 442 Range Plants  
MSYM 312 Engine Power Systems  
MSYM 354 Soil & Water Conservation Systems

## Biological Sciences courses

BIOS 201 Cell Structure & Function
BIOS 230 Ecology of the Great Plains
BIOS 305 Genetics, Molecular & Cellular Biology Lab
BIOS 320 and 322 Ecology
BIOS 471 Plant Taxonomy
BIOS 350 Cell Biology
BIOS 478 Plant Anatomy

## Business courses

ACCT 306 Survey of Accounting
MNGT 361 Personnel/Human Resources Management

## Horticulture courses

HORT 260 Intro to Floriculture
HORT 261 Floral Design
HORT 262 Floral Design II
HORT 325 Greenhouse Practices & Management
HORT 339 Planting Design
HORT 350 Basic Fruit Production
HORT 351 Vegetable Production
HORT 362 Nursery Crop Production Management
HORT 396 Current Projects & Topics in Horticulture
HORT 425 Turfgrass Science & Culture

## Mathematics courses

MATH 104 Calculus for Managerial & Social Sciences
MATH 106 and 107 Analytic Geometry and Calculus I & II

## Personal Development course

ALEC 102 Interpersonal Skills for Agricultural Leadership
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## Physical Sciences courses

BIOC 321 Elements of Biochemistry
BIOC 431 and 432 Biochemistry
CHEM 221 Elementary Quantitative Analysis

## Statistics courses

STAT 180 Elements of Statistics
BIOM 201 Intro to Biometry
ECON 215 Statistics
EDPS 459 Statistical Methods

## Horticulture Science Option

Students in the Horticulture Science Option are preparing for careers in which understanding the science of the growth and development of fruit, ornamental, nut, turf, or vegetable crops is critical to success. The science option prepares students for pursuing graduate training in horticulture.

This option is met by completing the courses listed under the horticulture core curriculum plus the following:

	Hours
<b>Agricultural Sciences .....</b>	<b>14-16</b>
ENTO 303 Horticultural Insects .....	3
PLPT 369 Intro to Plant Pathology.....	3
HORT 409 Horticulture Crop Physiology .....	4
Electives in Horticulture .....	4-6
<i>Select from: HORT 260, 261, 262, 325, 350, 351, 362, 396, 407, 408, 416, 420, 425</i>	

## Biological Sciences .....

AGRO 315 Genetics .....
or BIOS 301 General Genetics (4 cr)

## Physical Sciences .....

BIOC 321 Elements of Biochemistry or higher .....
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## Chemistry .....

CHEM 110 General Chemistry .....
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## Organic Chemistry .....

CHEM 251 Organic Chemistry .....
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## Elementary General Physics .....

PHYS 142 Elementary General Physics .....
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## or PHYS 212

## Mathematics .....

MATH 106 Analytic Geometry & Calculus I .....
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## Free Electives .....

Total Option Requirements .....
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**50-53**

## Horticulture Production Option

Students in the horticulture production option are preparing for careers in production and marketing of field- and greenhouse-grown fruits, vegetables, and ornamentals.

This option is met by completing the courses listed under the horticulture curriculum plus the following:

	Hours
<b>Agricultural Sciences</b> .....	<b>26</b>
ENTO 303 Horticultural Insects .....	3
HORT 260 Intro to Floriculture .....	3
HORT 362 Nursery Management .....	4
HORT 325 Greenhouse Practices & Management .....	4
PLPT 369 Intro to Plant Pathology .....	3
Electives .....	13
Select from: HORT 261, 262, 350, 351, 396, 408, 409, 425; AGRO 220, 361	
<b>Biological Sciences</b> .....	<b>8</b>
AGRO 315 Genetics .....	4
or BIOS 301 General Genetics	
BIOS 325 Intro to Plant Physiology or higher .....	4
<b>Physical Sciences</b> .....	<b>8-9</b>
CHEM 110 General Chemistry .....	4
CHEM 251 Organic Chemistry .....	3-4
or BIOC 221 Intro to Biochemistry (3 cr) and BIOC 221L (1 cr)	
MSYM 109L .....	1
<b>Mathematics (beyond college algebra)</b> .....	<b>5</b>
Includes statistics and PHIL 211 Intro to Modern Logic.	
<b>Free Electives</b> .....	<b>5</b>
<b>Total Option</b> .....	<b>51-52</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, and/or maintain residential and commercial landscapes. They are also qualified to manage grounds, parks, and/or recreational landscapes.

This option is met by completing the courses listed under the horticulture core curriculum major requirements plus the following:

	Hours
<b>Agricultural Sciences</b> .....	<b>22</b>
HORT 266 Intro to Landscape Design .....	4
HORT 339 Planting Design .....	3
HORT 341 Landscape Construction .....	4
HORT 362 Nursery Management .....	4
HORT 417 Site Planning .....	3
HORT 469 Senior Landscape Design .....	4
<b>Biological Sciences</b> .....	<b>3</b>
BIOS 320 Principles of Ecology .....	3
<b>Plant Electives</b> .....	<b>6-8</b>
Select two courses from the following:	
AGRO 220 Principles of Weed Science (3 cr)	
AGRO 315 Genetics or BIOS 301 General Genetics (4 cr)	
AGRO 440 The Range Ecosystem (3 cr)	
AGRO 442 Range Plants (3 cr)	
BIOS 455 Great Plains Flora (3 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
HORT 425 Turfgrass Science & Culture (3 cr)	
NRES 224 Ecology of Woody Plants (4 cr)	
PLPT 369 Intro to Plant Pathology (3 cr)	
<b>Construction and Design</b> .....	<b>6</b>
DESN 111 Foundation Design or TXCD 121 .....	3
MSYM 452 Principles of Irrigation .....	3
<b>Construction Elective</b> .....	<b>2-3</b>
Select one:	
CNST 131 Intro to Construction Industry (3 cr)	
CNST 420 Professional Practice (2 cr)	
MSYM 242 Construction Principles (3 cr)	
<b>Mathematics</b> .....	<b>5</b>
MATH 102 Trigonometry .....	2
One course beyond college algebra .....	3
Includes statistics and PHIL 211 Intro to Modern Logic.	
<b>Free Electives</b> .....	<b>14</b>
<b>Total Option Hours</b> .....	<b>58-61</b>

**NOTE:** The Landscape Design Option requires HORT 398, not HORT 399. A landscape architecture minor is being administered jointly by the CASNR and the College of Architecture. For further details, see "Landscape Architecture Minor" on page 83.

### Horticulture Business Option

Students in the horticulture business option are preparing for careers in business aspects of commercial horticulture. Students must meet GPA.

This option is met by completing the courses listed under the horticulture core curriculum plus the following:

	Hours
<b>Agricultural Sciences</b> .....	<b>15</b>
ENTO 303 Horticultural Insects .....	3
PLPT 369 Intro to Plant Pathology .....	3
Electives in Horticulture .....	9
Select from: HORT 260, 261, 262, 266, 325, 339, 341, 350, 351, 362, 396, 398, 399, 425	
<b>Biological Sciences</b> .....	<b>4</b>
AGRO 315 Genetics .....	4
or BIOS 301 General Genetics	
<b>Mathematics (beyond college algebra)</b> .....	<b>0-5</b>
Includes statistics and PHIL 211 Intro to Modern Logic.	
<b>Business and Economics</b> .....	<b>24-26</b>
ACCT 201-202 Intro to Accounting .....	6
ECON 211 Principles of Macroeconomics .....	3
Selected Business Courses .....	15-17
BLAW 371 Legal Environment (3 cr)	
FINA 361 Finance (3 cr)	
MNGT 361 Personnel/Human Resources Management (3 cr)	
MRKT 341 Marketing (3 cr)	
Business elective (3-5 cr)	
<b>Free Electives</b> .....	<b>5-7</b>
<b>Total Option Requirements</b> .....	<b>52</b>

### Horticulture Communications Option

Students in the horticulture communications option are preparing for careers in describing, announcing, advertising, and/or promoting horticultural activities, programs, commodities, or enterprises.

This option is met by completing the courses listed under the horticulture curriculum plus the following:

	Hours
<b>Agricultural Sciences</b> .....	<b>15</b>
ENTO 303 Horticultural Insects .....	3
PLPT 369 Intro to Plant Pathology .....	3
Electives in Horticulture .....	9
Select from: HORT 260, 261, 262, 266, 325, 339, 350, 351, 362, 396, 398, 399, 409, 425	
<b>Biological Sciences</b> .....	<b>4</b>
AGRO 315 Genetics .....	4
or BIOS 301 General Genetics	
<b>Mathematics (beyond college algebra)</b> .....	<b>5</b>
Includes statistics and PHIL 211 Intro to Modern Logic.	
<b>Communications</b> .....	<b>21</b>
Journalism .....	12
ADVT 281 Intro to Advertising (3 cr)	
BRDC 226 Intro to Broadcasting (3 cr)	
NEWS 282 News Writing & Reporting (3 cr)	
NEWS 284 Intro to Photojournalism (3 cr)	
Speech course other than already required .....	3
Communications electives .....	6
Select one course in two of the following departments:	
Journalism, Speech Communication, Marketing	
<b>Free Electives</b> .....	<b>6</b>
<b>Total Option Requirements</b> .....	<b>51</b>

### Turfgrass Option

Students in the turfgrass option are preparing for careers in the production (or management of production) of sod; establishment and maintenance of recreational, commercial, or residential turfs; management of enterprises in which turf is a basic medium for recreational activity; management of turf-related aspects of general nursery and garden center operations.

This option is met by completing the courses listed under the horticulture core curriculum plus the following:

	Hours
<b>Agricultural Sciences</b> .....	<b>20</b>
ACRO 220 Principles of Weed Science .....	3
AGRO 361 Soils, Environment & Water Quality .....	3
ENTO 303 Horticultural Insects .....	3
HORT 408 Microclimate: The Biological Environment .....	3
HORT 425 Turfgrass Science & Culture .....	3
HORT 441 Forage & Range Physiology .....	2
or HORT 409 Horticulture Crop Physiology	
PLPT 369 Intro to Plant Pathology .....	3
<b>Biological Sciences</b> .....	<b>8</b>
AGRO 315 Genetics .....	4
or BIOS 241 General Genetics	
BIOS 325 Intro to Plant Physiology .....	4
<b>Physical Sciences</b> .....	<b>11-12</b>
CHEM 110 General Chemistry .....	4
CHEM 251 Organic Chemistry .....	4
or BIOC 221 Intro to Biochemistry	
HORT 452 Irrigation Systems Management .....	3
MSYM 109L Physical Principles in Agric Lab .....	1
<b>Mathematics (beyond college algebra)</b> .....	<b>5</b>
Includes statistics and PHIL 211 Intro to Modern Logic.	
<b>Electives</b> .....	<b>8</b>
Select from: ACCT 201, 306; AGRI 200, 271; AGRO 442, 481; BIOS 220, 479; FINA 260; HORT 396, 461; MNGT 361	
<b>Total Option Requirements</b> .....	<b>51-52</b>

### Horticulture Major, Biological Sciences Minor

Students in the science, production, or turfgrass option must take 14 additional hours (AGRO 315 substitutes for BIOS 301) as specified under "Requirements for the Minor in Biological Sciences" on page 136.

### Horticulture Major, Chemistry Minor

Students in the science, production or turfgrass options can obtain a minor in chemistry by fulfilling the option requirements (take CHEM 251 instead of BIOC 221) plus quantitative chemistry (CHEM 221) and 8 additional chemistry credits. Refer to "Requirements for the Minor in Chemistry" on page 140 of this bulletin and see your adviser.

### Horticulture Major, 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 and statistics course) plus MATH 107 and 208. Two advanced courses may also be required dependent on the plan chosen. Refer to "Requirements for the Minor in Mathematics and Statistics" on page 175 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 Horticulture. Requirements are as follows:

<b>Core .....</b>	<b>Hours .....</b>
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**Core .....** **10-12**  
 Select from:  
 HORT 130 Intro to Horticulture (4 cr)  
 HORT 200 Landscape & Environmental Appreciation or HORT 260 Intro to Floriculture or HORT 261 Floral Design (3 cr)  
 HORT 212 Landscape Plants I (3 cr)  
 HORT 221 Plant Propagation (3 cr)

**Electives.....** **6-8**

Select from:  
 HORT 325 Greenhouse Practices & Management (4 cr)  
 HORT 327 Intro to the Science of Turf Management (3 cr)  
 HORT 339 Planting Design (3 cr)  
 HORT 341 Landscape Construction (4 cr)  
 HORT 350 Basic Fruit Production (4 cr)  
 HORT 351 Vegetable Production (3 cr)  
 HORT 362 Nursery Crop Production & Management (4 cr)  
 HORT 396 Current Projects and Topics in Horticulture (1-5 cr)  
 HORT 398 Career Experience (3 cr)  
 HORT 399 Independent Study (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 17-18 credit hours. All those wishing to complete the minor must take selected courses plus these core courses:

**Hours .....**

**Core .....** **9**  
 ARCH 106 Environmental Studies or HORT 200 Landscape & Environmental Appreciation ..... 3  
 HORT 212 Landscape Plants I ..... 3  
 ARCH 360/HORT 417 Site Planning ..... 3

**Horticulture Majors .....** **9**

Select from:

ARCH 457 Housing Issues In Contemporary Society (senior) (3 cr)  
 ARCH 240 History of Architecture (3 cr)  
 CRPL 400 Intro to Planning (senior) (3 cr)

**Architecture Majors .....** **8**

Select from:  
 HORT 130 Intro to Horticulture (4 cr)  
 HORT 339/ARCH 467 Planting Design (3 cr)  
 HORT 341/ARCH 468 Intro to Landscape Construction (4 cr)  
 HORT/ARCH 469 Senior Design (senior) (4 cr)  
 HORT 498 Topics in Landscape Architecture (senior) (1 cr)

**Other majors 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.

**[ES] 130. Introduction to Horticulture** (4 cr I) Lec 3, rct/ lab 2.  
 Introductory course providing scientific concepts and practical skills involved in the study of horticultural science.

**170. Residential Landscape Design** (2 cr I) 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.

**[ES][IS] 200. Landscape and Environmental Appreciation** (3 cr II) Lec 2, disc 1.

Critical examination of 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** (NRES 212) (3 cr I) Lec 2, rct 1. Prereq: HORT 130. *Several required off campus field trips will be scheduled for Saturdays.*

Identification using botanical and common names for herbaceous 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** (NRES 213) (3 cr II) Lec 2, lab/ fld 2. Prereq: HORT/NRES 212.

Continuation of HORT 212, stressing 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 212 also receive attention.

**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.

**260. Introduction to Floriculture** (3 cr I) Lec 2, rct and lab 2. Prereq: HORT 130, 221. *Offered fall semester of odd-numbered calendar years.*

Floral crop production as related to current practices used in the floral industry.

**[ES][IS] 261. Floral Design I** (3 cr I) Lec/lab 3. *Offered fall semesters. Open to nonmajors.*

Principles of floral design and retail florist shop management, while offering practical experience in all aspects of flower arranging. Includes making of corsages and nosegays; home and novelty arrangements; and seasonal, sympathy, and wedding flowers.

**[ES] 262. Floral Design II** (3 cr I) 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.

**[ES] 266. Introduction to Landscape Design** (4 cr II) Studio 8. Prereq: ARCH 120, DESN 111, HORT 212 or equivalent; and permission.

Graphic techniques for landscape design; analysis and process for design of the landscape; studio problems on value, texture, form and space; and explorations of design characters of plants, landforms and their combination.

**[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.

**[ES] 327. Introduction to the Science of Turf Management** (3 cr I) Lec 2, rct and lab 3. Prereq: HORT 130, BIOS 109, AGRO 153, HORT 221, CHEM 109 (or concurrent). *Offered fall semester of even-numbered calendar years.*

Emphasis on the underlying scientific principles of turf species adaptation, turf/soil relationships, establishment, fertility, mowing, irrigation, pest control, and vegetative identification of turf species.

**339. Planting Design** (ARCH 467) (3 cr I) Lec 1, studio 4. Prereq: HORT 212; HORT 200 and 266 or ARCH 210; and permission.

Design processes, principles, and elements as applied to the use of native and ornamental plant materials. Aesthetic, functional, and microclimatic arrangements of plant material in parks, commercial property, on home grounds, along roadways and in urban open spaces. Develop a palette of plants and graphics for designs.

**341. Introduction to Landscape Construction** (ARCH 468) (4 cr I) Lec 2, studio 4. Prereq: MATH 102 or MATH 106; MSYM 109 or PHYS 141; or permission.

Introduction to basic landscape construction, materials, techniques, and practices including site measurement and layout, topography, grading, cut-fill drainage and runoff calculations, topsoil protection and urban site erosion control; fences, walls, retaining walls and decks, lighting and pools; specifications, cost estimating and bidding. Emphasis on landscape construction and design techniques as part of the design process, problem solving in studio exercises and the interrelation of design and construction teams.

**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.

**351. Vegetable Production** (3 cr II) Lec 3, rct 1. Prereq: HORT 130, 221 or permission. *Offered spring semester of odd-numbered calendar years.*

Systematics and classification of vegetable crops, their environmental requirements, and production practices for fresh and processing markets. Home vegetable gardening and production under greenhouse conditions. Plants of the various kinds of vegetable crops are grown and observed under greenhouse conditions.

**362. Nursery Crop Production Management** (4 cr II) Lec 3, rct and lab 3. Prereq: HORT 130, 221. *Offered spring semester of even-numbered calendar years.*

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.

**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.

**398. Career Experience**<sup>1</sup> (3-5 cr I, II, III, max 5) Prereq: Sophomore standing; horticulture major; advance approval of instructor; and permission. *Participation must be in a horticulture enterprise other than those in which the student has had previous experience. A written and oral report is required at the completion of the career experience.*

Participate in horticulture, agribusiness, research, extension or teaching.

**399. Independent Study**<sup>1</sup> (3-5 cr 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.

**403/803. Fundamentals of Crop Physiology** (AGRO, NRES 403/803) (2 cr II, first 8 wks) Lec 4. Prereq: BIOS 325 or equivalent.

For course description, see AGRO 403/803.

**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; 4 hrs physics; physical or biological science major. *Offered spring semester of odd-numbered calendar years.*

For course description, see NRES 408/808.

**409/809. Horticulture Crop Physiology** (NRES 409/809) (4 cr II) Lec 3, rct/lab 3. Prereq: BIOS 325 or an equivalent plant physiology course, or permission. *Offered spring semester of even-numbered calendar years.*

Application of physiological principles to the growth, development, and survival of herbaceous and woody plants.

**416/816. Seed Physiology** (AGRO 416/816) (2 cr II) Lec 2. Prereq: BIOS 325 or equivalent. *Offered even-numbered calendar years.*

For course description, see AGRO 416/816.

**417. Site Context Issues** (ARCH 360) (3 cr) Lec 1, lab 4. Prereq: ARCH 310, 350, or permission. Parallel: ARCH 311 or permission.

For course description, see ARCH 360.

**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.

**420/820. Postharvest Physiology and Food Processing** (FDST 420/820) (3 cr I) Lec 2, lab 2. Prereq: CHEM 251; BIOC 321; BIOS 269, 312 or FDST 405; or permission. *Offered fall semester even-numbered calendar years.*  
For course description, see FDST 420/820.

**424/824. Plant Nutrition and Nutrient Management** (AGRO 424/824) (3 cr II) Lec 2. Prereq: BIOS 325 or basic course in plant physiology or permission. A course in organic chemistry or biochemistry recommended. *Offered spring semesters of odd-numbered calendar years.*  
Macro and micronutrient 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).

**425/825. Turfgrass Science and Culture** (AGRO 425/825) (3 cr I) Lec 2, rct/lab 2. Prereq: 9 hrs agricultural plant science and 3 hrs soil science. *Offered fall semester of odd-numbered calendar years.*  
Methods and principles of establishment and maintenance of turfgrasses. Emphasis on climatic adaptation; methods of identification and propagation; equipment; fertility and watering practices; insects, diseases, and weed control.

**441/841. Forage and Range Physiology** (AGRO, RNGE 441/841) (2 cr II, second 8 wks) Lec 4. Prereq: AGRO 403/803.  
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.

**[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.

**498/898. Topics in Landscape Architecture** (1 cr I) Seminar 2. Prereq: Senior standing and permission.  
Topical readings and discussions on current theory, research and practice in landscape architecture. A topic is set for each offering. 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 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 301, BIOC 831 or permission.

**811. Plant Tissue Culture** (NRES, BIOS 811) (4 cr II) Lec 2, lab 4. Prereq: BIOS 109, 325 (includes CHEM 109, 110, BIOC 221), or equivalents, or permission. *Offered spring semester of even-numbered years.*

**812. Landscape Ecology** (NRES 810) (3 cr II) Lec 3, lab. Prereq: 12 hours biological sciences or related fields including BIOS 320 or permission.

**849. Woody Plant Growth and Development** (NRES, BIOS 849) (3 cr I) Lec 2. Prereq: BIOC 221 or CHEM 251; BIOS 325; or permission. *Offered fall semester of even-numbered calendar years.*

**879. Plant Growth and Development** (BIOS 879) (4 cr I) Lec 3, rct/lab 3. Prereq: BIOS 325 and 478/878; CHEM 252 or BIOS 431, or permission.

**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.

## Mechanized Systems Management

### Head: Professor G. J. Hoffman

**Professors:** Bashford, Eisenhauer, Hanna, Martin, Schinstock, Schulte

**Associate Professors:** Jones, Kocher, Meagher, Meyer, Weller

**Assistant Professor:** Bland

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) major 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 agricultural operations, mechanization science, processing operations and mechanization marketing.

## Core Curriculum

The following courses are required for the mechanized systems management major in the Department of Biological System Engineering. In addition to these courses, students in the mechanized systems management major must select and meet the requirements of one of the four options.

	Hours
<b>College Integrative Courses</b> .....	<b>6</b>
AGRI 103 Food, Agriculture & Natural Resource Systems.....	3
MSYM 462 Equipment Systems <sup>1</sup> .....	3
<b>Mathematics &amp; Analytical Skills</b> .....	<b>5</b>
MATH 102 Trigonometry .....	2
BIOM 201 Intro to Biometry .....	3
or STAT 180 Elements of Statistics (3 cr) or ECON 215 Statistics (3 cr)	
<b>Communication</b> .....	<b>9</b>
JGEN 200 Technical Writing .....	3
Oral Communication .....	3
Select from: COMM 109, 209, 212 or 311	
Communication and Interpersonal Skills elective....	3
Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; COMM 109, 209, 212, or 311	
<b>Natural Sciences</b> .....	<b>20</b>
BIOS 101 and 101L General Biology .....	4
CHEM 109 General Chemistry .....	4
MSYM 109 and 109L Physical Principles in Agriculture and Lab .....	5
Natural Sciences electives .....	7

This area would include additional biology, chemistry, and physics as well as genetics, geography (excluding human and economic), geology, ecology, etc.

### Humanities and Social Sciences ..... 21

ECON 211 ..... 3  
ECON 212 ..... 3  
or AECN 141

Essential Studies..... 12

Select one 3-credit course in each of the following four  
CASNR Essential Studies categories: (For the listing  
of ES/IS courses see "Essential Studies Program  
List" on page 14.)

Historical Studies

Humanities

Arts

Race, Ethnicity & Gender

Elective..... 3

To be selected from lower level modern languages  
courses or from one of the CASNR Essential Studies  
categories above or from the Human Behavior, Culture,  
and Social Organization category.

### Major Requirements ..... 24

AGRI 271 Computer Applications in Agriculture....3  
MSYM 162 Equipment Systems Management.....2  
MSYM 245 Electrical Service Systems.....3  
MSYM 312 Engine Power Systems.....3  
MSYM 354 Soil Conservation & Watershed  
Management .....

Management .....

MSYM 364 Agricultural Products Processing &  
Handling .....

MSYM 416 Sensors & Control Systems for Agri-  
Industries .....

SOIL 153 Intro to Soil Resources .....

### Option Requirements ..... 32-34

NOTE: One 3-credit course with an international  
focus is to be selected from the lists under "International  
Affairs Minor (Agricultural Emphasis)" on page 61.

**Free Electives** ..... 8-10  
**Credit Hours Required for Graduation**..... 128

## Agricultural Operations Option

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.

### Hours Option Requirements ..... 34

AGRO 204 Resource-Efficient Crop Management. 3  
AECN 201 Farm & Ranch Management.....4  
AECN 211 Principles of Agricultural Marketing..3  
ASCI 250 Animal Management.....3  
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 452 Irrigation Systems Management  
(3 cr)

Additional agricultural sciences courses related  
to production agriculture..... 8-12  
(200 level or above)

Option electives..... 0-4

Select one course:

Drafting (MECH 130, CNST 101 or HORT  
161) (3 cr), ENTO 115, 116 General &  
Applied Entomology (3 cr); business or  
agricultural economics course (3 cr); MATH  
104 Calculus for Managerial & Social Sciences  
(3 cr)

### Free Electives ..... 8

## Mechanization Science 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.

	Hours
<b>Option Requirements .....</b>	<b>32</b>
AECN 201 Farm & Ranch Management .....	4
AGRO 204 Resource-Efficient Crop Management ..	3
or ASCI 250 Animal Management	
ENGM 220 Statics .....	3
ENGM 324 Strengths of Materials .....	3
MATH 106 Analytic Geometry & Calculus .....	5
MECH 100 Intro to CAD .....	2
MNGT 245 Elementary Quantitative Methods .....	3
<i>Select three courses from the following:</i> .....	<i>9</i>
MSYM 232 Equipment Principles (3 cr)	
MSYM 342 Animal Housing Systems (3 cr)	
MSYM 412 Hydraulic Power Systems (3 cr)	
MSYM 433 Equipment & Tractor Testing (3 cr)	
MSYM 452 Irrigation Systems Management (3 cr)	
<b>Free Electives .....</b>	<b>10</b>

### 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.

	Hours
<b>Option Requirements .....</b>	<b>33</b>
AECN 211 Principles of Agricultural Marketing .....	3
CHEM 110 General Chemistry .....	4
FDST 203 Food Composition .....	3
MATH 104 Calculus for Managerial & Social Sciences .....	3
or MATH 106 Analytical Geometry & Calculus (5 cr)	
MNGT 245 Elementary Quantitative Methods .....	3
MNGT 331 Operations & Resources Management ..	3
or MNGT 361 Personnel/Human Resources Management	
MSYM 412 Hydraulic Power Systems .....	3
MSYM 464 Heat & Mass Transfer .....	2
MSYM 465 Food Engineering Unit Operations .....	3
<i>Select two courses from the following:</i> .....	<i>6</i>
ASCI 410 Processed Meats (3 cr)	
FDST 412 Cereal Technology (3 cr)	
FDST 418 Eggs & Egg Products (3 cr)	
FDST 420 Postharvest Physiology & Food Processing (3 cr)	
FDST 429 Dairy Products Technology (3 cr)	
<b>Free Electives .....</b>	<b>10</b>

### Mechanization Marketing Option

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. Within this option there are two areas of specialization, the General Business Specialization and the John Deere Mentor program.

	Hours
<b>Option Requirements .....</b>	<b>34</b>
ACCT 201 & 202 Introductory Accounting .....	6
AECN 201 Farm & Ranch Management .....	4
MATH 104 Calculus for the Managerial & Social Sciences .....	3
MSYM 232 Equipment Principles .....	3
Selected business courses .....	6
<i>Include one course from any two of the following three areas:</i>	

### Business Law

AECN 256 Legal Aspects in Agriculture (3 cr)
AECN 357 Natural Resources & Environmental Law (3 cr)
BUSL 371 Legal Environment (3 cr)

### Finance

AECN 452 Agricultural Finance (3 cr)
ECON 303 An Intro to Money & Banking (3 cr)
FINA 361 Finance (3 cr)

### Management

AECN 316 Agricultural Business Management (3 cr)
MNGT 331 Operations & Resources Management (3 cr)
MNGT 361 Personnel/Human Resources Management (3 cr)

### General Business Specialization .....

This specialization prepares students for management of production enterprises and for professional careers dealing closely with agricultural commodities.

### Marketing .....

AECN 211 Principles of Agricultural Marketing or AECN 212 Introductory Agribusiness Marketing
AGRO 204 Resource-Efficient Crop Management or ASCI 250 Animal Management
MSYM 342 Animal Housing Systems

MSYM 452 Irrigation Systems Management
<b>John Deere Mentor Program .....</b>

This program provides the student with specialized training in the technical and business management skills that develop potential equipment dealership personnel.
AECN 212 Introductory Agribusiness Marketing
AGRO 204 Resource-Efficient Crop Mgt.
MSYM 412 Hydraulic Power Systems
MSYM 496 Principles & Problems in Mechanized Agriculture

### Free Electives .....

Possible courses to consider include AECN 442, ECON 360, MECH 130, and MSYM 433.
<b>Mechanized Systems Management Minor</b>

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)

#### [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 (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 system management case study made.

#### 217. Agricultural Manufacturing Processes and Materials (3 cr) Lec 2, lab 3. Prereq: CHEM 109, MSYM 109 or equivalent or permission.

Introduction to major metallic, polymeric, and ceramic materials used in agricultural industries. Manufacturing concepts, materials processing, project planning and project construction provide an understanding of agricultural manufacturing.

#### 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.

#### 242. Construction Principles (3 cr I) Lec 2, lab 3.

Materials, procedures and equipment for construction of light frame buildings. Construction contracts and computer applications in drafting and estimation of building costs are included.

#### 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 I, II, III) Prereq: Permission and advanced approval of plan or work. *P/N 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 MATH 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.

#### 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.

#### 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 Agriculture (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 2. 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 BIOM 201. *(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

*Include one course from any two of the following three areas:*

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.

**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.

**464/864. Heat and Mass Transfer** (FDST 464/864) (2 cr I)

Lec 2. Prereq: MATH 104 or 106, MSYM 109 or PHYS/ASTR 141, or permission.

For course description, see FDST 464/864.

**465/865. Food Engineering Unit Operations** (FDST

465/865) (3 cr II) Lec 2, lab 3. Prereq: MSYM 464/864, or permission.

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 phys-

ics/physical or biological science major. *Offered fall semester of odd-numbered calendar years.*

For course description, see NRES 469/869.

**475/875. Water Quality Strategy** (AGRO, CIVE, CRPL,

NRES, GEOL, POLS, S OCI 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 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 evalua-

tion of a departmental faculty member.

**499H. Honors Thesis** (3-6 cr 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 recom-

mended.

**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.

## Plant Pathology

**Head: Professor A. K. Vidaver**

**Professors:** Dickman, Steadman, Van Etten, Watkins

**Associate Professors:** French, Lane, Mitra,

Partridge, Powers, Yuen

**Assistant Professors:** Giesler, Harveson, Stack,

Stenger

An option in plant pathology is offered under the crop protection major, see "Crop Protection" on page 76.

## Courses of Instruction (PLPT)

**[ES][IS] 189H. University Honors Seminar** (3 cr I) Prereq: Good standing in the University Honors Program. Topics vary.

**300. Plant Pathology** (3 cr I) Lec. Prereq: BIOS 101, 101L, and 109. Available only by electronic transmission. Access to the World Wide Web and e-mail is required. Lectures are delivered over the World Wide Web and supported by Web study pages. 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 study of plant diseases including relation of plant disease to crop production, environment, and human-kind. Written analysis case studies are an integral component.

[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 disease to crop production, environment, and man. Examples and demonstrations emphasize horticultural and agronomic crops of Nebraska.

**464A/864A. Principles of Plant Pathology** (BIOS 464A/864A) (3 cr II) Lec/dem 2. Prereq: PLPT 369 or equivalent and introduction to biochemistry or permission; prerequisite cannot be waived for undergraduates. Epidemiology and disease control through cultural, biological, chemical and host plant resistance strategies.

**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, AGRI 299H recommended. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**\*864B. Principles of Plant Pathology** (BIOS 864B) (3 cr I) Lec/dem. Prereq: BIOS/PLPT 369 and 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** (3 cr I) Lec 2, lab 3. Prereq: BIOS 464A/864A or \*864B or permission. *Offered odd-numbered calendar years.*

**\*867. Plant Pathogenic Bacteria** (3 cr I) Lec 2, lab 3 (lab 1 cr optional). Prereq: BIOS 312, 464A/864A or \*864B, and CHM 432/832 or 436/836 or permission. *Offered even-numbered calendar years.*

**\*869. Phytopathogenic Fungi** (3 cr II) Lec 1, lab 2. Prereq: BIOS 312, 864A or \*864B, 805 or equivalent, with permission. *Offered even-numbered calendar years.*

**898. Problems in Biological Sciences** (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.

## Veterinary and Biomedical Sciences

**Head: Professor J. A. Schmitz**, Department of Veterinary and Biomedical Sciences

**Professors:** Doster, Duhamel, Griffin, Grotelueschen, Jones, Kelling, Lou, Moxley, Osorio, Rupp, Srikanth, Srikumar

**Associate Professors:** Barletta, Donis, Hungorf, Rogers, Schneider, Steffen, Wallner-Pendleton

**Assistant Professors:** Cirillo, Gray, Sherman, Smith, Wills

**Lecturer:** Dewell

**Research Assistant Professor:** Brodersen

Courses in veterinary science are designed to broaden the knowledge of students in such areas as microbiology, virology, pathology, immunology, molecular biology, and biochemistry as they relate to animals, including poultry, and the prevention of diseases in these species. Members of the staff also advise students interested in the veterinary science, veterinary technologist, and preveterinary medicine majors.

Two options are available in the veterinary science major. A major in veterinary science with a Veterinary Medicine Option is designed for students interested in pursuing a career in clinical veterinary medicine, advanced specialty training, biomedical/veterinary research, or military or government careers. Students may

receive the bachelor of science degree in agricultural sciences with a veterinary science major if they have successfully completed two years of study toward the DVM/VMD degree at an accredited college or school of veterinary medicine and have completed at least 98 credit hours at the University of Nebraska. Additional details are available from the Department of Veterinary and Biomedical Sciences.

A major in veterinary science with a Biomedical Sciences Option leading to a bachelor of science degree in agricultural sciences is designed 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 and biotechnology orientation.

For graduate programs in veterinary science, see the *Graduate Studies Bulletin*.

## Major Requirements

The following basic courses are required for veterinary science major. In addition, students in the veterinary science major 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 103/NRES 103 Food, Agriculture & Natural Resource Systems .....	3
<b>Natural Science Courses</b> .....	47
Biological Sciences .....	16
BIOS 101 General Biology (3 cr) and BIOS 101L General Biology Lab (1 cr) .....	4
or BIOS 112 Intro to Zoology (4 cr)	
BIOS 312 Fundamentals of Microbiology .....	3
BIOS 314 Microbiology Lab .....	1
BIOS 315 Vertebrate Embryology .....	4
Genetics .....	4
AGRO 315 Genetics or BIOS 301 General Genetics .....	2
Physical Sciences .....	26
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 .....	5
or MSYM 109 Physical Principles in Agriculture (4 cr) and MSYM 109L Physical Principles in Agriculture Lab (1 cr)	
PHYS 142 Elementary General Physics .....	5
Biological Chemistry .....	5
BIOC 431 Biochemistry .....	3
BIOC 433 Biochemistry .....	2
<b>Mathematics and Analytical Skills</b> .....	5
MATH 102 Trigonometry .....	2
Additional Math/Analytical Skills course .....	3
BIOM 201 Intro to Biometry (3 cr)	
or EDPS 459 Statistical Methods (3 cr)	
or PHIL 211 Intro to Modern Logic (3 cr)	
<b>Communications</b> .....	9
Written Communication .....	6

**NOTE:** Two composition courses required, one 100-level course and one 200-level course. Students selecting ENGL 101 or 102 as the 100-level course **must** select ENGL 254 or 255, or JGEN 200 or 300, as the 200-level course.

**100-level course.**

*Select from:* ENGL 101 Composition & Lit I, 102 Composition & Lit II, 150 Composition I, 151 Composition II; or CURR 120 Basic Business Communication (3 cr each)

**200-level course.**

*Select from:* ENGL 252 Writing of Fiction, 253 Writing of Poetry, 254 Composition, 255 Business Writing; JGEN 200 Technical Writing; or CURR 325 Managerial Communications (3 cr each)

Oral Communication .....	3
Select from: COMM 209 Public Speaking, 212 Debate, or 311 Business & Professional Communication (3 cr each)	
<b>Humanities and Social Sciences .....</b>	<b>18</b>
Economics.....	3
AECN 141 Intro to Economics of Agriculture (3 cr)	
<b>or</b> ECON 211 Principles of Macroeconomics (3 cr)	
<b>or</b> ECON 212 Principles of Microeconomics (3 cr)	
Essential Studies.....	15
Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
<b>NOTE:</b> One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.	
<b>Academic, Life and Interpersonal Skills .....</b>	<b>3</b>
UFND 101 Student Life Seminar (2 cr)	
UFND 102 Student Life Lecture (1 cr) <b>or</b>	
UFND 103 Student Life Seminar <b>or</b> ALEC 102 Interpersonal Skills for Agricultural Leadership <b>or</b> ALEC 202 Leadership Development for Agriculture (3 cr each)	
<b>Animal Science .....</b>	<b>5</b>
ASCI 100 Animal Agriculture (2 cr)	
ASCI 250 Animal Management (3 cr)	
<b>Management/Finance .....</b>	<b>3-4</b>
MNGT 121 Intro to Entrepreneurial Management (3 cr)	
<b>or</b> AECN 201 Farm & Ranch Management (4 cr)	
<b>or</b> FINA 260 Personal Finance (3 cr)	
<b>or</b> MNGT 320 Principles of Management (3 cr)	
<b>Elective .....</b>	<b>3</b>

### Veterinary Medicine Option

The following courses are required for a Veterinary Medicine Option in the veterinary science major. Completion of the baccalaureate degree program requires successfully finishing two years of the professional curriculum in veterinary medicine at an accredited college or school of veterinary medicine. Undergraduate courses included in this degree program will fulfill the prerequisites for admission to the Kansas State University College of Veterinary Medicine.<sup>6</sup> However, completion of the general education courses at UNL **does not guarantee acceptance to the professional curriculum** in the College of Veterinary Medicine at Kansas State University.

All preveterinary requirements must be fulfilled by the spring term of the year in which the student is seeking admittance. All applicants to Kansas State University are required to take the general test of the Graduate Record Examination (GRE). Scores must be received at the Kansas State University College of Veterinary Medicine no later than a specified date of the year in which entry is planned. No applications for admission to veterinary school are accepted

after a designated date each year. Students should contact the Department of Veterinary and Biomedical Sciences for these dates.	
<b>Major Requirements .....</b>	<b>96</b>
Veterinary Medicine Option.....	35
College Integrative Course (Capstone Course).....	2
VBMS 488 Exploration of Production Medicine <sup>7</sup> (2 cr)	
Selected equivalent course from college/school of veterinary medicine <sup>8</sup> .....	33
Ethics & Jurisprudence <sup>7</sup> (Capstone Course) (1 cr)	
Gross Anatomy I (6 cr)	
Gross Anatomy II (6 cr)	
Microanatomy (5 cr)	
Veterinary Physiology I (5 cr)	
General Veterinary Pathology (5 cr)	
Systemic Veterinary Pathology (5 cr)	
<b>Total Hours for Graduation .....</b>	<b>131</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>Major Requirements .....</b>	<b>96</b>
<b>Biomedical Sciences Option .....</b>	<b>32</b>
College Integrative Course (Capstone Course).....	4
VBMS 403 Integrated Principles & Prevention of Livestock Diseases (4 cr)	
Humanities and Social Sciences .....	3
Elective (3 cr)	
To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.	
Animal Science .....	4
ASCI 240 Anatomy & Physics of Domestic Animals (4 cr)	
Veterinary and Biomedical Sciences.....	9
VBMS 308 Vertebrate Histology (3 cr)	
VBMS 410 General Pharmacology & Toxicology (3 cr)	
VBMS 441 Pathogenic Microbiology (3 cr)	
Electives.....	12
<b>Total Hours for Graduation .....</b>	<b>128</b>

## Veterinary Technologist

**Head:** Professor J. A. Schmitz, Department of Veterinary and Biomedical Sciences

**Coordinator:** Associate Professor N. Schneider, Department of Veterinary and Biomedical 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). Students selecting this major 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 the Veterinary Technology Program at NCTA are transferable to UNL and contribute to the course requirements for the veterinary technologist major. The number of courses transferable from the veterinary technology curriculum varies with the Veterinary Technologist Option chosen by the student and the elective courses taken, but ranges from about 50 to 60 credits. Students may start or finish at either UNL or an accredited veterinary technology program, allowing maximum flexibility in planning and accommodations for changing career interests.

This baccalaureate degree program includes three curricular options addressing individual student interests and career objectives.

- The **Veterinary Science Option** includes all course prerequisites for application to the Kansas State University College of Veterinary Medicine and most other veterinary medical colleges.
- The **Science Option** prepares graduates for veterinary technologist career choices demanding a knowledge of the sciences beyond the AAS in veterinary technology level. It includes most, but not all prerequisites for application to veterinary college.
- The **Business Option** emphasizes business courses and electives for veterinary technologist career choices demanding more extensive business skills and knowledge beyond the AAS in veterinary technology.

The veterinary technologist major is for individuals who wish to pursue careers related to veterinary medicine, including those who do not wish to complete the doctor of veterinary medicine (DVM) degree. Veterinary technologists 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 practice

6. The University of Nebraska has a contractual agreement with Kansas State University College of Veterinary Medicine (KSU/CVM), and will provide funds for net educational costs at that institution above the normal in-state tuition for Nebraska residents during their four-year professional program. This amount is subject to approval by the Nebraska Legislature. Nebraska residents accepted into this program pay Kansas resident tuition and fees, living costs, and other expenses. In addition to the above-mentioned contract program, many other colleges of veterinary medicine in the United States will accept Nebraska applicants at large. Such applicants are considered nonresident and, if accepted, Nebraska students will be required to pay noncontract nonresident tuition. Further information can be obtained by writing the Department of Veterinary and Biomedical Sciences, University of Nebraska-Lincoln, College of Agricultural Sciences and Natural Resources, PO Box 830905, Lincoln, NE, 68583-0905.
7. These course combinations will provide the intent and educational outcome of a Capstone experience.
8. These credits will be transferred from KSU/CVM or other accredited college or school of veterinary medicine. The student must have successfully completed two years of study toward a DVM/VMD degree.

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 technologist major in the Department of Veterinary and Biomedical Sciences:

**College Integrative Courses ..... 7**

AGRI 103/NRES 103 Food, Agriculture & Natural Resource Systems ..... 3

Capstone Course<sup>9</sup> ..... 4

VBMS 403 Integrated Principles & Prevention of Livestock Diseases

**Natural Sciences ..... 13**

Biological Sciences ..... 4

BIOS 101 General Biology (3 cr) and BIOS 101L General Biology Lab (1 cr)

or BIOS 112 Intro to Zoology (4 cr)

Physical Sciences ..... 9

CHEM 109 General Chemistry I (4 cr)

PHYS 141 Elementary General Physics (5 cr)

or PHYS 151 Elements of Physics (4 cr) and 153 Lab (1 cr)

or MSYM 109 Physical Principles in Agriculture (4 cr) and 109L Lab (1 cr)

**NOTE:** Physics course(s) taken should meet prevetinary and additional course prerequisites if application to professional school is intended. Consult your adviser regarding which courses fulfill this requirement.

**Mathematics and Analytical Skills ..... 5**

MATH 102 Trigonometry ..... 2

Additional Math/Analytical Skills ..... 3

BIOM 201 Intro to Biometry (3 cr)

or EDPS 459 Statistical Methods (3 cr)

or PHIL 211 Intro to Modern Logic (3 cr)

**Communications ..... 9**

Written Communication ..... 6

**NOTE:** Two composition courses required, one 100-level course and one 200-level course. Students selecting ENGL 101 or 102 as the 100-level course **must** select ENGL 254 or 255, or JGEN 200 or 300, as the 200-level course. Students selecting CURR 120 must continue with JGEN 200 or 300, or CURR 325, as the 200-level course.

**100-level course.**

Select from: ENGL 101 Composition & Lit I, 102 Composition & Lit II, 150 Composition I, 151 Composition II; or CURR 120 Basic Business Communication (3 cr each)

**200-level course.**

Select from: ENGL 252 Writing of Fiction, 253 Writing of Poetry, 254 Composition, 255 Business Writing; JGEN 200 Technical Communications I, 300 Technical Communications II; or CURR 325 Managerial Communications (3 cr each)

Oral Communication ..... 3

Select from: COMM 209 Public Speaking, 212 Debate, or 311 Business & Professional Communications (3 cr each)

**Humanities and Social Sciences ..... 18**

Economics ..... 3

AECN 141 Intro to Economics of Agriculture (3 cr)

or ECON 211 Principles of Macroeconomics (3 cr)

or ECON 212 Principles of Microeconomics (3 cr)

Essential Studies ..... 15  
 Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)  
 Human Behavior, Culture & Social Organization  
 Historical Studies  
 Humanities  
 Arts  
 Race, Ethnicity & Gender

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

Total number of hours of all courses required in this area (humanities and social sciences) is 18.

## Veterinary Science Option

**Major Requirements and Electives ..... 78-80**

Biological Sciences ..... 12

BIOS 312 Fundamentals of Microbiology (3 cr)

BIOS 314 Microbiology Lab (1 cr)

BIOS 315 Vertebrate Embryology (4 cr)

Genetics: AGRO 315 Genetics or BIOS 301 General Genetics (4 cr)

Physical Sciences ..... 17

CHEM 110 General Chemistry II (4 cr)

CHEM 251 Organic Chemistry (3 cr)

CHEM 253 Organic Chemistry Lab (1 cr)

CHEM 252 Organic Chemistry (3 cr)

CHEM 254 Organic Chemistry Lab (1 cr)

PHYS 142 Elementary General Physics (5 cr)

Biological Chemistry ..... 5

BIOC 431 Biochemistry (3 cr)

BIOC 433 Biochemistry Lab (2 cr)

Academic, Life and Interpersonal Skills ..... 3

UFND 101 Student Life Seminar (2 cr)

UFND 102 Student Life Lecture (1 cr)

or UFND 103 Student Life Seminar (3 cr)

or ALEC 102 Interpersonal Skills for Agricultural Leadership (3 cr)

or ALEC 202 Leadership Development for Agriculture (3 cr)

or SS 103 Human Relations<sup>10</sup> (2 cr) and SS 113 Master Student (1 cr)<sup>10</sup>

Animal Science ..... 4

ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr)

or VE 120 Anatomy & Physiology of Domestic Animals I, lec and lab (2 cr)<sup>10</sup> and VT 220 Anatomy & Physiology of Domestic Animals II, lec (2 cr)<sup>10</sup>

Business ..... 6-8

To be selected from any two of the following five areas:

**Accounting**

ACCT 201 Introductory Accounting (3 cr);

AB 101 Accounting (3 cr)<sup>10</sup>

**Computing**

AGRI 271 Introduction to Computer Applications in Agriculture (3 cr)

or AB 100 Intro to Computer Applications (2 cr)

and AB 109 Hardware & Applications (2 cr)<sup>10</sup>

**Finance**

AECN 452 Agricultural Finance (3 cr)

FINA 260 Personal Finance (3 cr)

FINA 361 Finance (3 cr)

AB 412 Finance (3 cr)<sup>10</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)

MNGT 361 Personnel/Human Resource Management (3 cr)

AB 204 Business Management I (3 cr)<sup>10</sup>

AB 407 Human Resource Management (3 cr)<sup>10</sup>

**Marketing**

AECN 211 Principles of Agricultural Marketing (3 cr)

MRKT 341 Marketing (3 cr)

Science Electives ..... 6

Veterinary Technology (selected equivalent courses)<sup>10</sup> ..... 35<sup>11</sup>

**Minimum Requirements for Graduation ..... 128**

## Science Option

**Major Requirements and Electives ..... 78-80**

Biological Sciences ..... 12

BIOS 312 Fundamentals of Microbiology (3 cr)

BIOS 314 Microbiology Lab (1 cr)

BIOS 315 Vertebrate Embryology (4 cr)

Genetics: AGRO 315 Genetics or BIOS 301 General Genetics (4 cr)

Physical Sciences ..... 8

CHEM 110 General Chemistry II (4 cr)

CHEM 251 Organic Chemistry (3 cr)

CHEM 253 Organic Chemistry Lab (1 cr)

Biological Chemistry ..... 4

BIOC 321 Elements of Biochemistry (4 cr)

Academic, Life and Interpersonal Skills ..... 3

UFND 101 Student Life Seminar (2 cr)

UFND 102 Student Life Lecture (1 cr)

or UFND 103 Student Life Seminar (3 cr)

or ALEC 102 Interpersonal Skills for Agricultural Leadership (3 cr)

or ALEC 202 Leadership Development for Agriculture (3 cr)

or SS 112 Human Relations (2 cr)<sup>10</sup> and SS 113 Master Student (1 cr)<sup>10</sup>

Animal Science ..... 4

ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr)

or VT 120 Anatomy & Physiology of Domestic Animals I, lec & lab (2 cr)<sup>10</sup> and VT 220 Anatomy & Physiology of Domestic Animals II, lec (2 cr)<sup>10</sup>

Business ..... 6-8

To be selected from any two of the following five areas:

**Accounting**

ACCT 201 Introductory Accounting (3 cr)

AB 101 Accounting (3 cr)<sup>10</sup>

**Computing**

AGRI 271 Introduction to Computer Applications in Agriculture (3 cr)

or AB 100 Intro to Computer Applications (2 cr)

and AB 109 Hardware & Applications (2 cr)<sup>10</sup>

**Finance**

AECN 452 Agricultural Finance (3 cr)

FINA 260 Personal Finance (3 cr)

FINA 361 Finance (3 cr)

AB 412 Finance (3 cr)<sup>10</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)

MNGT 361 Personnel/Human Resource Management (3 cr)

AB 204 Business Management I (3 cr)<sup>10</sup>

AB 407 Human Resource Management (3 cr)<sup>10</sup>

**Marketing**

AECN 211 Principles of Agricultural Marketing (3 cr)

MRKT 341 Marketing (3 cr)

Science Electives ..... 6

Veterinary Technology (selected equivalent courses)<sup>10</sup> ..... 35<sup>11</sup>

**Minimum Requirements for Graduation ..... 128**

- Equivalent of courses taken at Nebraska College of Technical Agriculture (NCTA), will include VT 381 Livestock Diseases (3 cr) concurrent with VT 399 Independent Study (1 cr). This course combination will provide the intent and educational outcome of a Capstone experience.
- 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.
- 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.

**Business Option<sup>12</sup>**

<b>Major Requirements and Electives .....</b>	<b>77-79</b>
Biological Sciences.....	4
Genetics: AGRO 315 Genetics (4 cr) or BIOS 301 General Genetics (4 cr)	
Physical Sciences.....	4
CHEM 110 General Chemistry II (4 cr)	
Academic, Life and Interpersonal Skills.....	3
UFND 101 Student Life Seminar (2 cr) or UFND 103 Student Life Seminar (3 cr) or ALEC 102 Interpersonal Skills for Agricultural Leadership (3 cr) or ALEC 202 Leadership Development for Agriculture (3 cr) or SS 112 Human Relations (2 cr) <sup>10</sup> and SS 113 Master Student (1 cr) <sup>10</sup>	
Animal Science.....	4-5
ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr) or VT 120 Anatomy & Physiology of Domestic Animals I, lec and lab (2 cr) <sup>10</sup> and VT 220 Anatomy & Physiology of Domestic Animals II, lec (2 cr) <sup>10</sup>	
Business .....	18-19
Core Courses.....	12-13
<i>Select one course from each of the following areas:</i>	
<b>Accounting</b>	
ACCT 201 Introductory Accounting (3 cr) AB 101 Accounting (3 cr) <sup>10</sup>	
<b>Business Management</b>	
AECN 201 Farm & Ranch Management (4 cr) AB 204 Business Management (3 cr) <sup>10</sup>	
<b>Management</b>	
MNGT 360 Managing Behavior in Organizations (3 cr) MNGT 361 Personnel/Human Resource Management (3 cr) AB 407 Human Resource Management (3 cr) <sup>10</sup>	
<b>Marketing</b>	
MRKT 341 Marketing (3 cr)	
<b>Electives.....</b>	<b>6</b>
<i>Select from the following areas:</i>	
<b>Accounting</b>	
ACCT 202 Introductory Accounting (3 cr) AB 251 Accounting II (3 cr) <sup>10</sup>	
<b>Business and Agribusiness Management</b>	
AECN 316 Agricultural Business Management (4 cr) AB 304 Advanced Business Management (3 cr) <sup>10</sup>	
<b>Business Law</b>	
AECN 256 Legal Aspects in Agriculture (3 cr) BLAW 371 Legal Environment (3 cr) AB 408 Business Law & Real Estate (3 cr) <sup>10</sup>	
<b>Finance</b>	
AECN 452 Agricultural Finance (3 cr) FINA 260 Personal Finance (3 cr) FINA 361 Finance (3 cr) AB 412 Finance (3 cr) <sup>10</sup>	
<b>Marketing and Salesmanship</b>	
MRKT 347 Marketing Communications Strategy (3 cr) MRKT 458 Sales Management (3 cr) AB 103 Sales Communication (3 cr) <sup>10</sup>	
<b>Free Electives.....</b>	<b>6</b>
<b>Veterinary Technology (selected equivalent courses)<sup>10</sup> .....</b>	<b>38<sup>11</sup></b>
<b>Minimum Requirements for Graduation .....</b>	<b>128</b>

**Courses of Instruction (VBMS)**

<b>303. Principles and Prevention of Livestock Diseases</b>	
(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.	

**308/808. Vertebrate Histology** (BIOS 308/808) (3 cr II) Lec 2, lab 2. Prereq: BIOS 101 and 101L, BIOS 112 and BIOC 221 or CHEM 251, or permission. BIOS 213 or ASCI 240, and BIOS 315 recommended for undergraduate enrollment, required for graduate enrollment. 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, their function and characteristics of the species. Introduction to the techniques of preparing tissues and organs for microscopic examination.

**[IS] 403. Integrated Principles and Prevention of Livestock Diseases<sup>1</sup>** (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.

**406/806. Veterinary Entomology** (ASCI, ENTO, NRES 405/805) (2 cr I) Lec 2. Prereq: 10 hrs entomology or biological science or related fields or permission.

For course description, see ENTO 405/805.

**406L/806L. Veterinary Entomology Lab** (ASCI, ENTO, NRES 405L/805L) (1 cr I) Prereq: ENTO/ASCI/NRES 405/805/VBMS 406/806; or parallel.

**[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.

**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 interactions. 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.

**452/852. Introduction to Molecular Virology and Viral Pathogenesis** (BIOS 452/852) (3 cr I) Lec/disc 3. Prereq: BIOS 443/843 or permission. *Offered even-numbered calendar years.*

Introduction to virology with emphasis on molecular biology and pathogenesis. Concepts of virus replication strategies, virus-host cell interactions, and viral pathogenesis considered.

**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 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 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 III) Lec/disc and lab. Prereq: Permission. *Offered summer semester of odd-numbered calendar years.*

**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 301 or equivalent. BIOS 818 recommended.

**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 301 and 1 sem organic chemistry; BIOS 201 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.

**852. Introduction to Molecular Virology and Viral Pathogenesis** (BIOS 852) (3 cr I) Lec/dis 3. Prereq: BIOS 843 or permission. *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.

## **Veterinary Medicine Preprofessional Program**

**Head:** Professor J. A. Schmitz, Department of Veterinary and Biomedical Sciences

**Coordinator:** Associate Professor N. Schneider, Department of Veterinary and Biomedical 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. Certain options in the veterinary science and veterinary technologist majors meet the requirements of Kansas State University College of Veterinary Medicine.<sup>6</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 major 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 major in veterinary science, veterinary technologist, animal science, food science and technology, biochemistry or other fields compatible with the preprofessional program that leads to a bachelor of science degree in agricultural sciences. Students can also complete preveterinary prerequisites with a major in wildlife or environmental studies, leading to a bachelor of science degree in natural resources. 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 major field by the end of their freshman year and to work with an adviser in that field.** It is especially important to consult your adviser to ensure that the communication-intensive course requirements, the capstone course requirement, and the international focus as well as the essential studies and integrative studies course requirements are met as mandated by the core curriculum for all majors in the College of Agricultural Sciences and Natural Resources. Additional advisory support relating to preprofessional requirements and admission policies is provided by an adviser within the Department of Veterinary and Biomedical Sciences, University of Nebraska-Lincoln.

It is not recommended that preveterinary students take any courses on a pass/no pass (P/N) basis because courses taken P/N may not be accepted for preprofessional prerequisites. Letter grades are required to evaluate credentials of applicants for veterinary college admission.

## Degree Requirements for Bachelor of Science in Natural Resources

The degree requirements apply to every major leading to a bachelor of science degree in natural resources 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 major incorporates the minimum requirements for the bachelor of science degree in natural resources.

The specific requirements for each major are listed under each major.

Students planning to transfer from other colleges or who are undecided about their major fields of interest should use these requirements as a guide and/or refer to the "Prenatural Resources Program" on page 99. Early selection of a major is strongly encouraged in order to enhance the timely completion of the student's program.

	Hours
<b>Natural Resources</b> ..... 21	
NRES 103 Food, Agriculture & Natural Resource Systems ..... 3	
Senior Capstone Course ..... 3	
<i>See your natural resources major.</i>	
Selected Natural Resources Courses ..... 15	
<i>Include a minimum of one course listed from each of the following areas:</i>	
<b>Animal Resources</b>	
AGRO 360 Applied & Environmental Microbiology (3 cr)	
BIOS 112 Intro to Zoology (4 cr)	
BIOS 320 Principles of Ecology (3 cr)	
BIOS 386 Vertebrate Zoology (4 cr)	
NRES 211 Wildlife Biology & Conservation (3 cr)	
NRES 311 Wildlife Ecology & Management (3 cr)	
<b>Geological and Soil Resources</b>	
GEOL 101 Physical Geology (4 cr)	
GEOL 105 Life of the Past (3 cr)	
GEOL 106 Environmental Geology (3 cr)	
GEOL 109 Oceanography (3 cr)	
SOIL 153 Soil Resources (4 cr)	
<b>Plant Resources</b>	
AGRO 204 Resource-Efficient Crop Management (3 cr)	
AGRO 360 Applied & Environmental Microbiology (3 cr)	
BIOS 109 General Botany (4 cr)	
BIOS 320 Principles of Ecology (3 cr)	
BIOS 374 Diversity of Plants (4 cr)	
BIOS 455 Great Plains Flora (3 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
NRES 417 Agroforestry Systems in Sustainable Agriculture (3 cr)	
NRES 424 Forest Ecology (4 cr)	
NRES 459 Limnology (4 cr)	
RNGE 240 Forage Crop & Range Management (4 cr)	
<b>Water and Climatic Resources</b>	
GEOG 150 Physical Geography (3 cr)	
METR 252 Meteorology (3 cr)	
NRES 281 Hydrogeography (3 cr)	
WATS 354 Soil Conservation & Watershed Management (3 cr)	
WATS 408 Microclimate: The Biological Environment (3 cr)	
<b>Mathematics and Analytical Skills (beyond college algebra)</b> ..... 5	
<i>Includes statistics and PHL 211 Intro to Modern Logic.</i>	
<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 towards this requirement.	
<b>Natural Sciences</b> ..... 20-21	
BIOS 101 and 101L General Biology and Lab ..... 4	
Biological Sciences ..... 4	
CHEM 109 General Chemistry I ..... 4	
CHEM 110 General Chemistry II ..... 4	
PHYS 141 Elementary General Physics (5 cr) .... 4-5	
or PHYS 151 Elements of Physics (4 cr)	
or PHYS 211 General Physics (4 cr)	
or MSYM 109 Physical Principles in Agriculture (4 cr)	
<b>Communications*</b> ..... 9	
Written Communication ..... 3	
Oral Communication ..... 3	
Communication and Interpersonal Skills electives .. 3	

<b>Humanities and Social Sciences</b> .....	<b>21</b>
ECON 211 or 212 or AEVN 141 .....	3
Essential Studies .....	15
<i>Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)</i>	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
<i>To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.</i>	

<b>Required Credit Hours in Minimum Requirements</b> .....	<b>76</b>
<b>Major Requirements and Electives</b> .....	<b>52</b>

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

**Total Credit Hours Required for Graduation** ..... **128**

\* For the listing of courses, see Communications under "College Requirements" on page 59.

The School of Natural Resource Sciences (SNRS) 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. SNRS is the administrative home for the Fisheries and Wildlife major, the Rangeland Ecosystem major, the Natural Resources emphasis within the Environmental Studies major and the Pre-Forestry program. The Water Science major and the Environmental Soil Science major are closely coordinated with SNRS faculty and share degree requirements through the bachelor of science in natural resources. These programs emphasize an interdisciplinary approach to undergraduate and graduate education while providing students with a strong grounding in the major of their choice. Courses of instruction in these majors provide students with the tools to describe the characteristics of natural resource systems which include the atmosphere, hydrosphere, geosphere and biosphere. In addition we expect graduates of these majors 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.

## Courses of Instruction (NRES)

**101. Forestry and Natural Resources Orientation** (1 cr I, II) Lec 1. Prereq: Freshman, first-year College of Agricultural Sciences and Natural Resources, (CASNR) or transferring student with a major in CASNR. P/N only. Overview of courses, options, schools, careers, employment opportunities, concepts and future trends in natural resources.

**[ES][IS] 103. Food, Agriculture, and Natural Resource Systems** (AGRI 103, LIBR 110A) (3 cr I, II) Lec 2, disc 1. For course description, see AGRI 103.

**170. Introduction to Great Plains Studies** (GPSP 100; ANTH, GEOG, SOCI 170) (3 cr) Required for Great Plains Studies majors and minors. For course description, see GPSP 100.

[ES] **211. Wildlife Biology and Conservation** (3 cr I) Lec 3. Prereq: Sophomore standing or permission. *Open to nonmajors*.

Introductory course on wildlife ecology and biology, interrelationships between humans and wildlife, and basic principles in wildlife management. Natural history of selected Nebraska wildlife, controversial issues concerning wildlife, and international wildlife management.

[ES] **281. Hydrogeography** (GEOG, WATS 281) (3 cr I) Prereq: GEOG 150 or permission.

Survey of the water resource in its geographical context, both world-wide and regionally. Basic principles of the hydrologic cycle, snow hydrology, rivers and river systems, lakes, plus other water topics. Reference made to man/water interactions.

**299. Independent Study in Forestry, Fisheries and Wildlife** (1-5 cr 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.

**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 I) Lec 3.

Prereq: Sophomore standing; BIOS 101 and 101L, and NRES 211, or permission. *Offered fall semester only. NRES 311 is designed for wildlife and biological sciences majors.*

Wildlife ecology and population biology and enhancement of wildlife populations through management. Emphasis on both game and nongame species. Basic concepts in conservation biology.

**315. Study Tours in Natural Resource Management**

(1-3 cr each, max 6 I, II, III) Prereq: Permission. *P/N only.* Group educational experience combining lectures, discussions and/or seminars with tours to broaden a student's knowledge of specific aspects of natural resources management. Choice of subject matter and coordination of on- and off-campus study at the discretion of the instructor.

[ES][IS] **323. Natural Resources Policy** (3 cr II) 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 2, lab 3. Prereq: NRES 211 or permission.

Fundamentals of prevention and control of damage caused by vertebrate pests, principally birds and mammals. Includes the philosophical, ecological, and behavioral basis for controlling population levels or individuals of pest species.

[IS] **350. Wildlife Management Techniques** (3 cr I) Lec 2, lab 3. Prereq: BIOS 320.

Survey of techniques utilized in wildlife management emphasizing habitat analysis, field techniques, criteria of sex and age, and animal damage control.

**388. Employment Seminar** (AGRI 388) (1 cr I, II) *P/N only.* Sophomore or junior standing in the College of Agricultural Sciences and Natural Resources recommended.

For course description, see AGRI 388.

**399. Independent Study in Forestry, Fisheries and Wildlife** (1-5 cr I, II, III) Prereq: 8 hrs forestry, fisheries and wildlife 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.

**404. Forestry, Fisheries and Wildlife Seminar** (1 cr per sem, max 2 cr II, first 8 weeks) Lec 4. Prereq: Junior standing or above in natural resources or permission.

Seminar involving technical aspects of forestry, fisheries, and wildlife management.

**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.

**415. 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.

**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 in courses in the earth or natural resource sciences including GEOG 150 and 152 or 155; or permission. For course description, see GEOG 418/818.

**423/823. Integrated Resources Management**<sup>1</sup> (3 cr II) Lec 3. Prereq: Senior standing in natural resources or related major, or permission.

Integrated and multiple-use management stressed and analyzed. Economic, political, social, and physical impacts on natural resources management priorities evaluated.

**424/824. Forest Ecology** (4 cr I) Lec 3. Field/lab 3. Prereq: BIOS 320 or permission. *Includes a weekend field trip to forested sites in Nebraska.*

Ecology of North American forests, emphasis on woodland and savanna vegetation in the Great Plains and identification of native trees and shrubs.

**442/842. Environmental Geophysics I** (GEOL 442/842) (4 cr) Lec 3, lab 3. Prereq: MATH 107, PHYS 211, GEOL 101 or 106, or equivalent courses or permission. For course description, see GEOL 442/842.

**443/843. Environmental Geophysics II** (GEOL 443/843) (4 cr) Lec 3, lab 3. Prereq: MATH 107 or equivalent, PHYS 211 or equivalent, GEOL 101 or 106 or equivalent, or permission. For course description, see GEOL 443/843.

**448/848. Advanced Topics in Wildlife Damage Management** (2 cr II) Lec 2. Prereq: NRES 348 or graduate standing.

In-depth study of 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. Participation in a three day professional conference is strongly encouraged.

**450/850. Biology of Wildlife Populations** (BIOS 450/850) (4 cr II) Lec 3, lab 3. Prereq: BIOS 320 or permission. Principles of population dynamics. Management strategies (for consumptive and nonconsumptive fish and wildlife species) presented utilizing principles developed.

**452/852. Climate and Society** (AGRO, GEOG, METR 450/850) (3 cr) Prereq: Junior standing, major in any of the agricultural or physical or biological sciences or engineering, METR 251 or 350 or equivalent, or permission. *Offered spring semester of odd-numbered calendar years.*

Identify the impact of climate and extreme climatic events on society and societal responses to those events. Global in scope and interdisciplinary.

**455/855. Soil Chemistry and Mineralogy** (AGRO 455/855; SOIL 455) (3 cr I) Lec 3. Prereq: AGRO/SOIL 153, CHEM 116 or 221 or equivalent. For course description, see AGRO 455/855.

**457/857. Soil Chemical Measurements** (SOIL 457; AGRO 457/857) (2-3 cr 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.

**459/859. Limnology** (BIOS 459/859; WATS 459) (4 cr II) Lec 3, lab 4. Prereq: 12 hrs biological sciences, including introductory ecology; 2 sems chemistry. *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.

[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.

**468/868. Wetlands** (BIOS 458; WATS 468) (4 cr II) Lec 4. Prereq: 12 hrs biological sciences; BIOS 320; 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 hands-on 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.

**475/875. Water Quality Strategy** (AGRO, CIVE, CRPL, GEOL, MSYM, POLS, SOC1 475/875; SOIL, WATS 475) (3 cr II) Lec 3. Prereq: Senior standing or permission.

For course description, see AGRO 475/875.

[IS] **477/877. Great Plains Field Pedology** (AGRO 477/877; GEOG 487/867; 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.

**491/891. Seminar in Natural Resource Sciences** (1 cr, max 2 cr I, II) Prereq: Presentations of special non-thesis topics, and/or research plans, and/or thesis research results.

**496/896. Independent Study** (AGRI 496) (1-5 cr I, II, III) Prereq: 12 hrs natural resource sciences or closely-related fields; permission.

Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.

**497/897. Career Experiences in Natural Resource Sciences** (1-6 cr, max 6, I, II, III) Prereq: Sophomore standing; School of Natural Resource Sciences (SNRS) majors; permission and advanced approval of a plan of work. *Internships are coordinated by School of Natural Resource Sciences 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.

**499H. Honors Thesis** (3-6 cr 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.

**\*862. Conservation Biology** (3 cr I) Lec 3. Prereq: 12 hrs forestry, fisheries and wildlife or related field, including BIOS 320, 241, or AGRO 315 or equivalent; or permission.

**899. Masters Thesis** (6-10 cr I, II, III)

## Environmental Studies

**Director:** Ronald M. Case, 204 NRH

**Chief Undergraduate Adviser:** Robert D.

Kuzelka, 103 NRH

**Coordinating Committee:** Professors Bailey (anthropology), Ballinger (biological sciences), Blum (geology), Carr (chemistry), Case (natural resources), Gaber (community & regional planning), Kuzelka (natural resources), Schmidt (physics & astronomy), Wandsnider (anthropology), Waller (CASNR), Williams, Jr. (sociology)

**Liaison Person for Natural Resources Area of Emphasis:** Steve Waller, Associate Dean (CASNR)

The environmental studies major is jointly offered with the College of Arts and Sciences. The core curriculum of the environmental studies major encompasses the natural and social sciences and the ethics of responsibility as well as a senior thesis. The core curriculum is enhanced with nine areas of emphases; eight offered through the College of Arts and Sciences: anthropology, biology, chemistry, geography, geology, meteorology-climatology, social science, and sociology.

The environmental studies major, Natural Resources Area of Emphasis curriculum, is for the student interested in an interdisciplinary education focusing on the use, management, and conservation of renewable natural resources. The curriculum is based on the integration of ecological principles with the utilization and conservation of natural resources. The Natural Resources Area of Emphasis will prepare students for careers in public and private organizations that are responsible for planning the use and management of natural resources and protection of the environment. Students will learn about subjects that will prepare them for positions in fields such as inventory, natural resource planning, environmental protection, sustainable development, policy analysis, and natural resources management.

The Environmental Studies/Natural Resources Area of Emphasis is administered through the College of Agricultural Sciences and Natural Resources (103 Agricultural Hall) and coordinated by the CASNR Environmental Studies/Natural Resources Area of Emphasis Advisory Committee.

## Major Requirements

	Hours
<b>Natural Resources</b> ..... 46-52	
NRES 103 Food, Agricultural & Natural Resource Systems ..... 3	
NRES 323 Natural Resources Policy ..... 3	
Seminar ..... 1	
ENVR 496 Environmental Studies Seminar	
Senior Thesis ..... 3	
ENVR 499 Environmental Studies Senior Thesis	
Water and Climatic Resources ..... 7	
METR 252 Meteorology (3 cr)	
METR 251 Meteorology Lab (1 cr)	
NRES 281 Hydrogeography (3 cr)	
Geological and Soil Resources ..... 8	
GEOL 101 Physical Geology (4 cr)	
SOIL 153 Soil Resources (4 cr)	
Plant Resources ..... 3-4	
Select one course:	
AGRO 360 Applied & Environmental Microbiology (3 cr)	
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 417 Agroforestry Systems in Sustainable Agriculture (3 cr)	
NRES 424 Forest Ecology (4 cr)	
Animal Resources ..... 3-4	
Select one course:	
AGRO 360 Applied & Environmental Microbiology (3 cr)	
BIOS 386 Vertebrate Zoology (4 cr)	
BIOS 494 Ornithology (4 cr)	
BIOS 495 Mammalogy (3 cr)	
NRES 211 Wildlife Biology & Conservation (3 cr)	
NRES 311 Wildlife Ecology & Management (3 cr)	
NRES 350 Wildlife Management Techniques (3 cr)	
NRES 459 Limnology (4 cr)	
NRES 461 Fisheries Science (4 cr)	
Integrated Resource Management ..... 3	
Select one course:	
AECN 265 Resource & Environmental Economics (3 cr)	
AECN 357 Natural Resources & Environmental Law (3 cr)	
NRES 423 Integrated Resources Management (3 cr)	
POLS 234 Government Regulations (3 cr)	
Select one course from each of the following four areas: ..... 12-16	
Agricultural Sciences	
Select from courses in agricultural economics, agronomy, horticulture, and animal science.	
Forestry and Range Management	
Select from courses in forestry, fisheries and wildlife, and range science.	
Management and Administration	
Select from courses in management, accounting, political science, operations research, planning and policy.	
Soil and Water	
Select from courses in water science and soil science.	
Mathematics & Statistics (beyond college algebra) ..... 5	
Includes statistics and PHIL 211 Intro to Modern Logic.	
NOTE: Proficiency at the college level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr can be counted toward this requirement.	
Communications ..... 9	
Written Communications ..... 3	
Select from: ENGL 150, 151, 254, 255; CURR 120; JGEN 200 or 300	
Oral Communications ..... 3	
Select from: COMM 109, 209, 212, or 311	
Communication and Interpersonal Skills Elective ... 3	
Select from: ENGL 101, 102, 150, 151, 252, 254, 255; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212, or 311	
<b>Natural Sciences</b> ..... 23-24	
BIOS 101 and 101L General Biology ..... 4	
BIOS 109 General Botany ..... 4	
or BIOS 112 Intro to Zoology	
BIOS 320 Principles of Ecology ..... 3	
CHEM 109 General Chemistry I ..... 4	
CHEM 110 General Chemistry II ..... 4	
PHYS 141 Elementary General Physics (5 cr) ...4-5	
or PHYS 151 Elements of Physics (4 cr)	
or PHYS 211 General Physics (4 cr)	
or MSYM 109 Physical Principles in Agriculture (4 cr)	
<b>Humanities and Social Sciences</b> ..... 24	
ECON 211 or 212 or AECN 141 ..... 3	
ANTH 212 Intro to Cultural Anthropology or	
ANTH 473 Ecological Anthropology or ANTH 474 Applied & Developmental Anthropology or	
ANTH 477 Hunter-Gatherers ..... 3	
SOCI 446 Environmental Sociology or SOCI 444 Social Demography ..... 3	
Essential Studies ..... 15	
Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
<b>NOTE:</b> One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.	
<b>Electives</b> ..... 14-21	
<b>Total Credit Hours for Graduation</b> ..... 128	

## Environmental Studies Minor

### Total 18 hours to include:

	Hours
GEOG 181 Quality of the Environment ..... 3	
or NRES 103 Food, Agricultural & Natural Resource Systems (3 cr)	
ENVR 496 Environmental Studies Seminar ..... 1	
A minimum of 14 hrs, 6 hrs at the 300 level or above, from among the courses listed below: ..... 14	
ANTH 473 Ecological Anthropology (3 cr)	
BIOS 202 Global Ecology or BIOS 320 Principles of Ecology (3 cr)	
CHEM 105 Survey of Chemistry or CHEM 109 General Chemistry or CHEM 113 Fundamental Chemistry (4 cr)	
METR 252 Meteorology (3 cr) and METR 251 Meteorology Lab (1 cr)	
NRES 323 Natural Resources Policy (3 cr)	
SOCI 444 Social Demography or SOCI 446 Environmental Sociology (3 cr)	

## Courses of Instruction (ENVR)

During the senior year, students must complete a "capstone" senior thesis (ENVR 499) (including a written thesis and oral defense) under the guidance of a faculty adviser and the environmental studies seminar (ENVR 496). 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 Chief Undergraduate Adviser.

**496. Environmental Studies Seminar** (1 cr) Prereq: Senior standing and environmental studies major or minor. Topic varies. Consists of a series of invited speakers dealing with topics related to an environmental theme selected for its appropriate and timely nature by the Environmental Studies Coordinating Committee.

**497. Internship in Environmental Studies** (1-4 cr)  
 Prereq: Environmental studies major, prior arrangement with and permission of faculty member in student's area of emphasis.  
 For seniors and some juniors who wish to gain experience in off-campus settings that are directly relevant to environmental studies.

**499. Environmental Studies Senior Thesis**<sup>1</sup> (3 cr) Prereq: Environmental studies major, senior standing. Prior arrangement with faculty adviser in student's area of emphasis. Student writes a thesis under the supervision of the emphasis adviser or a faculty member designated by the adviser in the student's emphasis area. A committee of two (the faculty member guiding the thesis and an additional member with expertise in the thesis topic) will review the thesis.

## Fisheries and Wildlife

**Director:** Edward T. Elliott, School of Natural Resource Sciences

**Professors:** Brandle, Case, Hergenrader, Hoagland, Peters

**Associate Professors:** Hgnstrom, Kuzelka, Wardle

**Assistant Professor:** 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 major are prepared to enter postgraduate programs as well as competitively enter the work force. The curriculum reflects minimal civil service requirements of the federal government for wildlife and fisheries biologists and incorporates most course requirements for certification in professional societies. With judicious use of electives, graduates can also meet requirements for positions as zoologists and refuge managers. Further, 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 major include fisheries biologist or wildlife biologist with private consulting firms and utility companies, zoos, as well as with governmental resource management agencies at the local, state, or federal level.

## Major Requirements

	Hours
<b>College Integrative Courses</b> .....	<b>6</b>
NRES 103 Food, Agriculture & Natural Resource Systems.....	3
NRES 423 Integrated Resources Management .....	3
<b>Mathematics and Analytical Skills</b> .....	<b>8-11</b>
Mathematics and Statistics (beyond college algebra).....	5-8
MATH 103 College Algebra & Trigonometry (5 cr) <b>or</b> MATH 102 Trigonometry (2 cr)	
Students qualifying for a higher mathematics course, as determined by the testing procedures of the mathematics department, will have met the above requirement and must select from one of the following:	
MATH 104 Calculus for Managerial & Social Sciences (3 cr), or	
MATH 105 Finite Math for Managerial & Social Sciences (3 cr), or	
MATH 106 Analytical Geometry & Calculus I (5 cr)	
BIOM 201 Intro to Biometry <b>or</b> STAT 180 Elements of Statistics (3 cr)	

<b>NOTE:</b> Students take MATH 102 (2 cr), statistics (3 cr) and computer science (3 cr). If they qualify at admission to MATH 104, 105, or 106, they must take one of these.	
Computer Science .....	3
AGRI 271 An Intro to Computer Application in Agriculture (3 cr)	
<b>Communication</b> .....	<b>12</b>
Written Communication .....	6
Select from: ENGL 150, 151, 254, 255; or JGEN 200 or 300	
Oral Communication .....	3
Select from: COMM 109, 209 or 311	
Communications Electives .....	3
Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; JGEN 200, 300; COMM 109, 209, 311; CURR 120, 325	
<b>Natural Sciences</b> .....	<b>43-49</b>
Biological Sciences .....	8
BIOS 101 and 101L General Biology and Lab (4 cr)	
BIOS 320 Principles of Ecology & 322 Ecology Lab (4 cr)	
Plant Resources .....	10-12
BIOS 109 General Botany (4 cr)	
Select two courses from the following:	
AGRO 442 Range Plants (3 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
BIOS 455 Great Plains Flora (3 cr)	
BIOS 473 Freshwater Algae (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 424 Forest Ecology (4 cr)	
Animal Resources .....	13-16
BIOS 112 Intro to Zoology (4 cr)	
Select one course from the following:	
BIOS 381 Invertebrate Zoology (4 cr)	
BIOS 386 Vertebrate Zoology (4 cr)	
BIOS 488 Natural History of the Invertebrates (3 cr)	
Select two courses from the following:	
BIOS 493 Herpetology (4 cr)	
BIOS 494 Ornithology (4 cr)	
BIOS 495 Mammalogy (3 cr)	
BIOS 487 Field Parasitology (4 cr)	
ENTO 402 Aquatic Insects (3 cr)	
ENTO 411 Field Entomology (4 cr)	
NRES 491 Ichthyology (4 cr)	
Physical Sciences .....	12-13
CHEM 109 General Chemistry I (4 cr)	
CHEM 110 General Chemistry II (4 cr)	
PHYS 141 Elementary General Physics (5 cr) or PHYS 151 Elements of Physics (4 cr)	
<b>Humanities and Social Sciences</b> .....	<b>21</b>
ECON 211 or 212 or AECN 141 .....	3
Essential Studies .....	15
Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.	
<b>Major Requirements and Electives</b> .....	<b>30-38</b>
<b>NOTE:</b> One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.	
Natural Resources .....	3
NRES 323 Natural Resources Policy (3 cr)	
Geological and Soil Resources .....	4
GEOL 101 Physical Geology (4 cr) or SOIL 153 Soil Resources (4 cr)	
Water and Climatic Resources .....	3-4
METR 252 Meteorology and METR 251 Meteorology Lab (4 cr) or NRES 281 Hydrogeography (3 cr)	
<b>Free Electives</b> .....	<b>0-8</b>
<b>Minimum Requirement for Graduation</b> .....	<b>128</b>

## Forestry, Fisheries and Wildlife Minor

- 18 credit hours of formal course work in forestry, fisheries and wildlife with a minimum of 9 credit hours in courses 300 level or above.

## Courses of Instruction (NRES) (formerly FFWL)

The courses offered provide: 1) an introduction to forestry, fisheries and wildlife sciences, practices and management; 2) knowledge of the interactions of plant and animal communities; 3) intensive study in individual phases of terrestrial and aquatic ecology; and 4) an understanding of relationships and interactions between the atmosphere and the biosphere; 5) opportunity for research.

**101. Forestry and Natural Resources Orientation** (1 cr I, II) Lec 1. Prereq: Freshman, first-year College of Agricultural Sciences and Natural Resources, (CASNR) or transferring student with a major in CASNR. *P/N only*. For course description, see NRES 101 on page 90.

[ES] **211. Wildlife Biology and Conservation** (3 cr I) Lec 3. Prereq: Sophomore standing or permission. *Open to nonmajors*. For course description, see NRES 211 on page 91.

**212. Landscape Plants I** (HORT 212) (3 cr I) Lec 2, rct 1. Prereq: HORT 130. For course description, see HORT 212.

**213. Landscape Plants II** (HORT 213) (3 cr II) Lec 2, lab/field 2. Prereq: HORT 212. For course description, see HORT 213.

**299. Independent Study in Forestry, Fisheries and Wildlife** (1-5 cr I, II, III) Prereq: Permission. For course description, see NRES 299 on page 91.

**300. Toxins in the Environment** (BIOS, ENTO 300) (2 cr II) Prereq: One semester biology and one semester chemistry. Offered *spring semester of odd-numbered calendar years*. For course description, see ENTO 300.

**308. Biogeography** (GEOG 308) (3 cr) Prereq: GEOG 150 or BIOS 101 and 101L, or permission. 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.* For course description, see NRES 310 on page 91.

**311. Wildlife Ecology and Management** (3 cr I) Lec 3. Prereq: Sophomore standing; BIOS 101 and 101L, and NRES 211, or permission. Offered *fall semester only*. NRES 311 is designed for wildlife and biological sciences majors. For course description, see NRES 311 on page 91.

**315. Study Tours in Natural Resource Management** (1-3 cr each, max 6 I, II, III) Prereq: Permission. P/N only. For course description, see NRES 315 on page 91.

**318. Aerial Photography in Land and Water Use** (GEOG 318) (3 cr) Lec 2, rct 1, lab 2. For course description, see GEOG 318.

**[ES][IS] 323. Natural Resources Policy** (3 cr II) Lec 3. Prereq: Junior standing. For course description, see NRES 323 on page 91.

**348. Wildlife Damage Management** (3 cr II) Lec 2, lab 3. Prereq: NRES 211 or permission. For course description, see NRES 348 on page 91.

**[IS] 350. Wildlife Management Techniques** (3 cr I) Lec 2, lab 3. Prereq: BIOS 320. For course description, see NRES 350 on page 91.

**399. Independent Study in Forestry, Fisheries and Wildlife** (1-5 cr I, II, III) Prereq: 8 hrs forestry, fisheries and wildlife or closely related areas and permission. For course description, see NRES 399 on page 91.

**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.

**403/803. Fundamentals of Crop Physiology** (AGRO, HORT 403/803) (2 cr II, first 8 wks) Lec 4. Prereq: BIOS 325 or equivalent. For course description, see AGRO 403/803.

**404. Forestry, Fisheries and Wildlife Seminar** (1 cr per sem, max 2 cr II, first 8 weeks) Lec 4. Prereq: Junior standing or above in natural resources or permission. For course description, see NRES 404 on page 91.

**405/805. Veterinary Entomology** (ASCI, ENTO 405/805; VBMS 406/806) (2 cr I) Lec 2. Prereq: 10 hrs entomology or biological science or related fields or permission. For course description, see ENTO 405/805.

**405L/805L. Veterinary Entomology Lab** (ASCI, ENTO 405L/805L; VBMS 406L/806L) (1 cr I) Prereq: ENTO/ASCI/NRES 405/805; VBMS 406/806; or parallel.

**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. For course description, see NRES 408/808 on page 91.

**409/809. Horticulture Crop Physiology** (HORT 409/809) (4 cr II) Lec 3, rct/lab 3. Prereq: BIOS 325 or permission. For course description, see HORT 409/809.

**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.

**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*. For course description, see NRES 417/817 on page 91.

**423/823. Integrated Resources Management** (3 cr II) Lec 3. Prereq: Senior standing in natural resources or related major, or permission. For course description, see NRES 423/823 on page 91.

**424/824. Forest Ecology** (4 cr I) Lec 3. Field/lab 3. Prereq: BIOS 320 or permission. *Includes a weekend field trip to forested sites in Nebraska.* For course description, see NRES 424/824 on page 91.

**435/835. Agroecology** (AGRO 435/835) (3 cr II) Lec 3. Prereq: Senior standing or permission. A course in ecology recommended. For course description, see AGRO 435/835.

**448/848. Advanced Topics in Wildlife Damage Management** (2 cr II) Lec 2. Prereq: NRES 348 or graduate standing. For course description, see NRES 448/848 on page 91.

**450/850. Biology of Wildlife Populations** (BIOS 450/850) (4 cr II) Lec 3, lab 3. Prereq: BIOS 320 or permission. For course description, see NRES 450/850 on page 91.

**454/854. Population and Community Ecology** (BIOS 454/854) (4 cr) Lec 3, lab 4. Prereq: BIOS 302 or 320 or equivalent. For course description, see BIOS 454/854.

**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.

**459/859. Limnology** (BIOS 459/859, WATS 459) (4 cr II) Lec 3, lab 4. Prereq: 12 hrs biological sciences, including introductory ecology; 2 sems chemistry. *May also be offered at Cedar Point Biological Station.* For course description, see NRES 459/859 on page 91.

**[IS] 463/863. Fisheries Science** (4 cr I) Lec 3, lab 3. *May also be offered at Cedar Point Biological Station.* For course description, see NRES 463/863 on page 91.

**464/864. Fisheries Biology** (BIOS 464/864) (3 cr) Prereq: BIOS/NRES 489/889 or equivalent. For course description, see NRES 464/864 on page 91.

**468/868. Wetlands** (BIOS 458, WATS 468) (4 cr II) Lec 4. Prereq: 12 hrs biological sciences; BIOS 320; CHEM 109 and 110. Offered *even-numbered calendar years*. For course description, see NRES 468/868 on page 91.

**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) (3 cr) Prereq: 12 hrs biological sciences including BIOS 386, or 12 hrs natural resources including NRES 311; or permission. *May also be offered at Cedar Point Biological Station.* For course description, see BIOS 476/876.

**489/889. Ichthyology** (BIOS 489/889) (4 cr I) 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.

**499H. Honors Thesis** (3-6 cr I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended. For course description, see NRES 499H on page 93.

**807. Plant-Water Relations** (AGRO 807, BIOS 817) (3 cr I) Lec 3. Prereq: BIOS 325 or equivalent, MATH 106 recommended, or permission.

**\*810. Landscape Ecology** (HORT 812) (3 cr II) Lec 3, lab. Prereq: 12 hrs biological sciences or related field including BIOS 320, or permission.

**811. Plant Tissue Culture** (BIOS, HORT 811) (4 cr II) Lec 2, lab 4. Prereq: BIOS 109, 325 (includes CHEM 109, 110, BIOC 221), or equivalents, or permission.

**849. Woody Plant Growth and Development** (HORT, BIOS 849) (3 cr I) Lec 2. Prereq: BIOC 221 or CHEM 251; BIOS 325 or permission. *Offered fall semester of even-numbered calendar years.*

**\*862. Conservation Biology** (3 cr I) Lec 3. Prereq: 12 hrs forestry, fisheries and wildlife or related field, including BIOS 320, 241, or AGRO 315 or equivalent; or permission.

**\*866. Advanced Limnology** (BIOS 860) (3 cr I) Lec 3. Prereq: NRES 459/859 or equivalent.

**899. Masters Thesis** (6-10 cr I, II, III)

Refer to the Graduate Bulletin for 900-level courses.

## Grazing Livestock Systems

**Director:** Martin A. Massengale, Center for Grassland Studies, 220 Keim Hall

**Faculty Coordinating Committee:** Moser, Schacht (agronomy); Brink, Gosey (animal science); Pfeiffer (agricultural economics)

The Grazing Livestock Systems major is designed for students whose career interests involve the production of livestock utilizing forage, pasture, and range as the principal feed resource. Successful graduates of the major will likely pursue careers as managers of livestock farms or ranches, or in public and private sector positions that assist in the management, education and support of grazing livestock decision making.

Students in this major 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 major.

## Major Requirements

	Hours
<b>College Integrative Courses</b> .....	<b>6</b>
AGRI 103 Food, Agriculture & Natural Resource Systems .....	3
ASCI 451/AGRO/RNGE 445 Livestock Management on Range & Pasture .....	3
<b>Mathematics and Analytical Skills</b> .....	<b>5</b>
MATH 102 Trigonometry .....	2
BIMM 201 Intro to Biometry or MATH 180 Elements of Statistics or ECON 215 Statistics .....	3
<b>Communication</b> .....	<b>9</b>
Written Communication .....	3
Select from: ENGL 150, 151, 254; CURR 120; JGEN 200	3
Oral Communication .....	3
Select from: COMM 109, 209, 212, or 311	3
Communication and Interpersonal Skills Elective .....	3
Select from: ENGL 101, 102, 150, 151, 252, 253, 254; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212, or 311	3
<b>Natural Sciences</b> .....	<b>24</b>
AGRO 315 Genetics .....	4
BIOC 221 Intro to Biochemistry .....	4
BIOS 101/101L General Biology/Lab or 109 General Botany or 112 Intro to Zoology .....	4
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
MSYM 109 Physical Principles of Agriculture or PHYS 151 Elements of Physics .....	4

<b>Humanities and Social Sciences</b> .....	<b>21</b>
ECON 211 Principles of Macroeconomics or 212 Principles of Microeconomics or AECN 141 Intro to the Economics of Agriculture.....	3
Essential Studies .....	15
<i>Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)</i>	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities	
Arts	
Race, Ethnicity & Gender	
Elective .....	3
<i>To be selected from lower level modern languages courses or from one of the CASNR Essential Studies categories above.</i>	
<b>NOTE:</b> One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.	
<b>Agricultural Sciences</b> .....	<b>38</b>
Animal Science.....	14
ASCI 240 Anatomy & Physiology of Domestic Animals .....	4
ASCI 250 Animal Management.....	3
ASCI 320 Animal Nutrition & Feeding .....	3
ASCI 330 Animal Breeding .....	4
Agronomy/Range/Soils .....	14
AGRO/SOIL 153 Soil Resources .....	4
AGRO/RNGE 240 Forage Crop & Range Management .....	4
AGRO/RNGE 340 Range Management & Improvement.....	3
AGRO/RNGE 440 The Range Ecosystem ..	3
Agricultural Economics .....	10
AECN 201 Farm & Ranch Management ..	4
AECN 211 Principles of Agricultural Marketing or 212 Intro to Agribusiness Marketing.....	3
AECN Elective .....	3
Select from: AECN 256 Legal Aspects in Agriculture, 265 Resource & Environmental Economics, 301 Farm Accounting, Analysis & Tax Mngt, 357 Natural Resources & Environmental Law, 401 Advanced Farm Management & Linear Programming, 452 Agricultural Finance	
<b>Internship</b> .....	3
<i>To be planned with adviser. Contract form required before registering. Select from: AECN 399, AGRO/RNGE 496, ASCI 399</i>	
<b>Supporting Courses</b> .....	<b>12</b>
ACCT 201-202 Introductory Accounting; any AECN from above electives, AECN 399 Independent Study; AGRO 204 Resource-Efficient Crop Management, 360 Applied & Environmental Microbiology, 435 Agroecology; AGRO/RNGE 442 Range Plants, 444 Rangeland Analysis, 496 Independent Study; AGRO/SOIL 477 Great Plains Field Pedology; ASCI 210 Animal Products, 399 Independent Study, 420 Advanced Feeding & Feed Formulation, 453 Dairy Management, 455 Beef Cow/Calf Management, 456 Sheep Management, 457 Beef Feedlot Management, 485 Animal Systems Analysis; NRES 211 Wildlife Biology & Conservation, 323 Natural Resources Policy, 423 Integrated Resources Management; VBMS 303 Principles & Prevention of Livestock Diseases	
<b>Free Electives</b> .....	10
<b>Total for Graduation</b> .....	<b>128</b>

## Natural Resource and Environmental Economics

**Head:** Gary D. Lynne  
**Professors:** Aiken, Azzam, Baker, Conley, Fulginiti, Hanson, Helmers, Johnson, Kendrick, Lynne, Miller, Olsen, Perrin, Peterson, Royer, Supalla, Turner  
**Associate Professors:** Allen, Pfeiffer  
**Instructor:** Spilker

The natural resource and environmental economics major 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 Resource Sciences.

## Major Requirements

	<b>Hours</b>
<b>College Integrative Courses</b> .....	<b>6</b>
NRES 103 Food, Agriculture & Natural Resource Systems .....	3
Capstone Course (NRES 423 or any 400-level AECN course with capstone designation. NRES 423 is recommended) .....	3
<b>Natural Resources</b> .....	<b>12</b>
Selected Natural Resources courses .....	12
<i>Include a minimum of one course listed from each of the following areas:</i>	
<b>Water and Climatic Resources</b>	
GEOG 150 Physical Geography (3 cr)	
METR 252 Meteorology (3 cr)	
NRES 281 Hydrogeography (3 cr)	
NRES/WATS 408 Microclimate: The Biological Environment (3 cr)	
WATS/SOIL 354 Soil & Water Conservation Systems (3 cr)	
<b>Geological and Soil Resources</b>	
GEOL 101 Physical Geology (3 cr)	
GEOL 105 Life of the Past (3 cr)	
GEOL 106 Environmental Geology (3 cr)	
SOIL 153. Soil Resources (4 cr)	
<b>Plant Resources</b>	
AGRO 204 Field Crop Production (3 cr)	
AGRO 240 Forage Crop & Range Management (4 cr)	
BIOS 109 General Botany (4 cr)	
BIOS 320 Principles of Ecology (3 cr)	
BIOS 374 Diversity of Plants (4 cr)	
BIOS 455 Great Plains Flora (3 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
NRES 223 Herbaceous Plants (3 cr)	
NRES 224 Ecology of Woody Plants (4 cr)	
NRES 417/817 Agroforestry Systems in Sustainable Agriculture (3 cr)	
NRES/WATS 459/859 Limnology (4 cr)	
<b>Animal Resources</b>	
BIOS 112 Introduction to Zoology (4 cr)	
BIOS 320 Principles of Ecology (3 cr)	
BIOS 386 Vertebrate Zoology (4 cr)	
NRES 211 Wildlife Biology & Conservation (3 cr)	
NRES 311 Wildlife Ecology & Management (3 cr)	
<b>NOTE:</b> Either BIOS 320 or RNGE 440 is required for the major. BIOS 320 can be taken to fulfill either the plant or the animal resources requirement above or either course can be taken in place of a free elective.	
<b>Mathematics and Analytical Skills (beyond college algebra)</b> .....	<b>9-11</b>
MATH 104 Calculus for Managerial & Social Sciences .....	3-5
<b>or</b> MATH 105 Finite Mathematics for Managerial & Social Sciences (3 cr)	
<b>or</b> MATH 106 Analytic Geometry & Calculus (5 cr)	
BIOM 201 Intro to Biometry.....	3
<b>or</b> ECON 215 Statistics (3 cr)	
<b>or</b> STAT 180 Elements of Statistics (3 cr)	
PHIL 211 Intro to Modern Logic.....	3
<b>Natural Sciences</b> .....	<b>20-21</b>
BIOS 101/101L General Biology and Lab.....	4
Biological Sciences elective .....	4
CHEM 109 General Chemistry I .....	4
<b>CHEM 110 General Chemistry II</b> .....	4
<b>PHYS 141 Elementary General Physics (5 cr)</b> .....	4-5
<b>or PHYS 151 Elements of Physics (4 cr)</b> .....	
<b>or PHYS 211 General Physics (4 cr)</b> .....	
<b>or MSYM 109 Physical Principles of Agriculture (4 cr)</b> .....	
<b>Communication</b> .....	<b>9</b>
Written Communication .....	3
<b>CURR 120:JGEN 200</b> .....	
Oral Communication .....	3
<b>Select from: COMM 109, 209, 212, 311</b> .....	
Communication and Interpersonal Skills Elective ...	3
<b>Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; JGEN 200</b> .....	
<b>Humanities and Social Sciences</b> .....	<b>21</b>
AECN 141 Intro to the Economics of Agriculture ..	3
ECON 211 Principles of Macroeconomics.....	3
<b>or</b> ECON 212 Principles of Microeconomics	
Essential Studies .....	15
<i>Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)</i>	
Human Behavior, Culture & Social Organization	
Historical Studies	
Humanities (recommend AECN/ALEC 388 Ethics In Agriculture and Natural Resources)	
Arts	
Race, Ethnicity & Gender	
<b>Major Requirements</b> .....	<b>33</b>
AECN 265 Resource Economics I.....	3
AECN 357 Natural Resources & Environmental Law .....	3
AECN 465 Resource Economics II.....	3
AECN 426 or MNGT 331 Operations Research ..	3
ECON 373 Intermediate Microeconomics.....	3
ECON 374 Intermediate Macroeconomics .....	3
Three course selected from: .....	9
ECON 340 Urban/Regional Economics (3 cr)	
ECON 371 Public Finance (3 cr)	
ECON 472 Efficiency in Government (3 cr)	
MNGT 360 Human Resources Management (3 cr)	
NRES 323 Natural Resource Policy (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
POLS 436 Intro to Public Policy Analysis (3 cr)	
SOCI 446 Environmental Sociology (3 cr)	
Social Science Electives.....	6
<i>Offered by the Departments of Agricultural Economics, Anthropology, Economics, Finance, Geography (except physical geography), Management, Marketing, Political Science, Sociology.</i>	
<b>Free Electives</b> .....	<b>15-18</b>
<b>Total Requirements</b> .....	<b>128</b>
<b>NOTE:</b> Ecology requirement: BIOS 320 or RNGE 440 taken as part of the natural resource requirements or in place of a free elective.	
<b>NOTE:</b> Computer Proficiency: Proficiency at the AGRI 271 level is required and can be satisfied by evidence from prior course work, a proficiency exam, or by taking AGRI 271.	
<b>NOTE:</b> International Block Requirement: Twelve hours of course work with an international focus are required as part of the 128 hours required for the major. A list of courses with an international focus is maintained by the Department.	
<b>Community Economics and Social Dynamics Minor</b>	
	<b>Hours</b>
<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 .....	3
<b>or</b> PUB ADMIN 8436/4430 (UNO) Mun. Administration	
<b>Additional Courses</b> .....	<b>6</b>
<i>Select two:</i>	
ANTH 212 Intro to Cultural Anthropology .....	3

CRPL 300 The Community & the Future.....	3
CRPL 400 Intro to Planning.....	3
CRPL 450 Social Planning & Policy.....	3
CRPL 480 Economic Development Planning.....	3
ECON 340 Intro to Urban-Regional Economics ..	3
ECON 371 Elements of Public Finance.....	3
POLS 436 Intro to Public Policy Analysis.....	3
PSYC 288 The Psychology of Social Behavior ..	3
SOCI 242 Urban Sociology.....	3
SOCI 446 Environmental Sociology.....	3
<b>TOTAL .....</b>	<b>18</b>

## Preforestry

**Director:** **Edward T. Elliott**, School of Natural Resource Sciences  
**Coordinator:** Professor J. Brandle, School of Natural Resource Sciences

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.

CASNR 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 Resource Sciences.

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:

	<b>Hours</b>
BIOM 201 Intro to Biometry .....	3
or STAT 180 (3 cr)	
BIOS 101 and 101L General Biology and Lab .....	4
BIOS 109 General Botany .....	4
CHEM 109, 110 General Chemistry I, II .....	8
COMM 209 Public Speaking .....	3
CSED 150 Intro to FORTRAN Programming .....	3
ECON 211, 212 Principles of Economics .....	6
ENGL 254 Composition .....	3
GEOL 101 Physical Geology .....	3
GEOL 102 Physical Geology Lab.....	1
JGEN 200 Technical Communication .....	3
MATH 104 Calculus for Managerial & Social Sciences.....	3
or MATH 106 Analytical Geometry & Calculus I (5 cr)	

NRES 103 Food, Agriculture & Natural Resource Systems .....	3
PHYS/ASTR 151 Elements of Physics .....	4
SOIL 153 Intro to Soil Science .....	4

## Rangeland Ecosystems

**Director:** **Blaine Blad**, School of Natural Resource Sciences

**Professors:** Moser, Stubbendieck

**Associate Professor:** Schacht

**Assistant Professor:** Wedin

The Rangeland Ecosystems major is an integration of disciplines involved in the study, conservation, and utilization of rangelands. Students in this major develop a strong background in the plant and physical sciences in preparation for studying the ecology and management of rangelands in upper level course work. A foundation of the major is multiple use, emphasizing integrated rangeland 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 Rangeland Ecosystems major is designed for students whose career interests involve management of rangeland habitats/ecosystems. Graduates of the major will likely pursue careers as managers of rangeland resources on private and public land with specialization in habitat management, rangeland restoration/monitoring, or grassland management. Specifically, this curriculum prepares students for employment with consulting firms, natural resources districts, school and public land management, land use planning agencies, 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 post-graduate education in most disciplines related to natural resource sciences.

## Major Requirements

	<b>Hours</b>
<b>College Integrative Courses .....</b>	<b>6</b>
NRES 103 Food, Agriculture & Natural Resources ..	3
NRES 423 Integrated Resource Management ..	3
<b>Natural Resources .....</b>	<b>14</b>
NRES 211 Wildlife Biology & Conservation <b>or</b> NRES 311 Wildlife Ecology & Management ..	3
NRES 281 Hydrogeography .....	3
SOIL 153 Soil Resources .....	4
SOIL 477 Great Plains Field Pedology .....	4
<b>Natural Sciences .....</b>	<b>32</b>
Biological Sciences .....	16
BIOS 101 and 101L General Biology and Lab (4 cr)	
BIOS 109 General Botany or BIOS 112 Intro to Zoology (4 cr)	
BIOS 325 Introductory Plant Physiology (4 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
Physical Sciences .....	16
BIOC 221 Intro to Biochemistry (4 cr)	
CHEM 109 General Chemistry I (4 cr)	
CHEM 110 General Chemistry II (4 cr)	
MSYM 109 Physical Principles in Agric (4 cr)	
<b>Rangeland Resources .....</b>	<b>13</b>
RNGE 240 Forage Crop & Range Management ..	4
RNGE 340 Range Management & Improvement ..	3
RNGE 440 The Range Ecosystem .....	3
RNGE 442 Range Plants .....	3

<b>Inventory and Policy.....</b>	<b>10</b>
GEOG 412 Geographic Information Systems .....	4
RNGE 323 Natural Resources Policy .....	3
RNGE 444 Vegetation Analysis .....	3

<b>Mathematics and Statistics .....</b>	<b>5-8</b>
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.

*Select one course from the following .....* 3-5  
 BIOM 201 Intro to Biometry (3 cr)  
 STAT 180 Elements of Statistics (3 cr)

<b>Communication .....</b>	<b>9</b>
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Written Communication .....

*Select from:* ENGL 150, 151, 254;  
 CURR 120; JGEN 200 or 300

Oral Communication .....

*Select from:* COMM 109, 209, 212, or 311

Communication and Interpersonal Skills Electives ..

*Select from:* ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212, or 311

<b>Humanities and Social Sciences .....</b>	<b>21</b>
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AECN 141 Introduction to the Economics of Agriculture .....

3

AECN 265 Resource Economics .....

3

AECN 388 Ethics in Agriculture & Natural Resources .....

3

Essential Studies .....

15

*Select one 3-credit course in each of the following five CASNR Essential Studies categories:* (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)

Human Behavior, Culture, & Social Organization

Historical Studies

Humanities

Arts

Race, Ethnicity & Gender

Elective .....

*To be selected from lower level modern languages courses or from one of the CASNR Essential Studies courses above.*

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

<b>Free Electives .....</b>	<b>15-18</b>
Total Credit Hours for Graduation .....	128

## Range Science Minor

	<b>Hours</b>
<b>Range Science Minor .....</b>	<b>18-20</b>

RNGE 240 Forage Crop & Range Management ..

4

RNGE 340 Range Management & Improvement ..

3

RNGE 440 The Range 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 Range Plants (3 cr)

RNGE 444 Rangeland Analysis (3 cr)

RNGE 445 Livestock Management on Range & Pasture (3 cr)

RNGE 496 Independent Study (1-3 cr)

RNGE 446 Range Plants (3 cr)

RNGE 448 Rangeland Analysis (3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 496 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

RNGE 497 Independent Study (1-3 cr)

RNGE 449 Livestock Management on Range & Pasture (3 cr)

RNGE 498 Independent Study (1-3 cr)

RNGE 447 Rangeland Analysis (3 cr)

RNGE 448 Livestock Management on Range & Pasture (3 cr)

**[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 Range Plants** (AGRO, SOIL 242) (1 cr I, II, max 4) Prereq: Permission, AGRO 240 recommended.  
For course description, see AGRO 242.

**299. Research Problems and Career Experience** (AGRO, SOIL 299) (1-5 cr I, II, III)  
For course description, see AGRO 299.

**340. Range Management and Improvement** (AGRO 340) (3 cr II) Lec 2, lab 3. Prereq: AGRO 240 or permission.  
For course description, see AGRO 340.

**401. Senior Seminar** (AGRO, SOIL 401) (1 cr II) Disc 1.  
Prereq: 80 credit hours.  
For course description, see AGRO 401.

**440. The Range Ecosystem** (AGRO 440/840) (3 cr II) Lec 3. Prereq: 12 hrs biological science, including BIOS 320 or 325.  
For course description, see AGRO 440/840.

**441. Forage and Range Physiology** (AGRO, HORT 441/841) (2 cr II, second 8 weeks) Lec 4. Prereq: AGRO 403/803.  
For course description, see AGRO 441/841.

**442. Range Plants** (AGRO 442/842) (3 cr I) Lec 2, lab 3.  
Prereq: 12 hrs agronomy or biological sciences.  
For course description, see AGRO 442/842.

**444. Rangeland Analysis** (AGRO 444/844) (3 cr I) Lec 2, lab 3. Prereq: 12 hrs biological sciences and AGRO 340, or permission; AGRO 440/840 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.

**496. Independent Study** (AGRO 496/896, SOIL 496) (1-6 cr I, II, III)  
For course description, see AGRO 496/896.

**499H. Honors Thesis** (AGRO, SOIL 499H) (3-6 cr I, II, III)  
Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended.  
For course description, see AGRO 499H.

## Soil Science

**Head: Professor Kenneth G. Cassman**, Department of Agronomy

**Professors:** Powers, Spalding

**Associate Professors:** McCallister, Skopp, Walters

**Assistant Professors:** Drijber, Mamo

The major is offered for students who wish to prepare for careers in technological, scientific, or industrial phases of soil science. Careers include soil conservation, remediation of soil contamination and management of soil-crop interactions. Positions open to graduates are available in industry, government, and universities and include areas such as soil management, soil fertility, soil chemistry, soil microbiology, soil physics, or soil classification and survey. Specialization in individual fields of soil science will require graduate study.

## Major Requirements

	Hours
<b>Natural Resources</b> .....	<b>42-46</b>
AGRO 204 Resource-Efficient Crop Management.....	3-4
or AGRO 240 Forage Crop & Range Management (4 cr)	
BIOS 320 Principles of Ecology .....	3
CIVE 353 Hydrology .....	3-4
or WATS 452 Irrigation Systems Management (3 cr)	

GEOL 101 Physical Geology.....3  
GEOL 102 Physical Geology Lab.....1  
NRES 103 Food, Agriculture & Natural Resource Systems.....3

SOIL 153 Soil Resources.....4  
SOIL 269 Principles of Soil Management.....3  
SOIL 361 Soils, Environment & Water Quality.....3  
SOIL 366 Soil Nutrient Relationships.....4  
SOIL 457 Soil Chemical Measurements.....2-3  
or SOIL 458 Soil Physical Determinations

SOIL 475 Water Quality Strategies .....3-4  
or SOIL 498 Senior Project or AGRO 405

Crop Management Strategy  
SOIL 477 Great Plains Field Pedology .....4  
WATS 354 Soil Conservation & Watershed Management.....3

**Biological and Physical Sciences** .....23-26  
BIOS 101 and 101L General Biology and Lab.....4  
BIOS 109 General Botany.....4

or BIOS 112 Intro to Zoology (4 cr)  
CHEM 109 General Chemistry I .....4  
CHEM 110 General Chemistry II .....4

PHYS/ASTR 141 Elementary General Physics..4-5  
or MSYM 109 Physical Principles in Agriculture (4 cr)

or PHYS 211 General Physics (4 cr)  
Select an additional course from: .....3-5

Second physics course (PHYS/ASTR 142 or 212)

or AGRO 440 Range Ecosystem  
or BIOC 221 Intro to Biochemistry  
or BIOS 312 General Microbiology  
or BIOS 325 Plant Physiology  
or CHEM 221 Quantitative Analysis

**Mathematics and Statistics** .....8-11  
MATH 102 Trigonometry .....2-5  
or MATH 103<sup>13</sup> or 104 or 106

BIOM 201 Biometry .....3  
or STAT 180 Elements of Statistics

PHIL 211 Intro to Modern Logic .....3

**Humanities and Social Sciences** .....21

ECON 211 or 212 or AECN 141 .....3

Essential Studies .....15

Select one 3-credit course in each of the following five  
CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)

Human Behavior, Culture & Social Organization  
Historical Studies  
Humanities  
Arts  
Race, Ethnicity & Gender

Elective .....3

To be selected from lower level modern languages  
courses or from one of the CASNR Essential  
Studies categories above.

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

**Communications** .....9  
**Free Electives** .....12-22  
**Requirements for Graduation** .....128

**NOTE:** The college capstone course requirement will be met by either SOIL 475 or 498, or AGRO 405.

**Graduate study preparation and certification:** To ensure the necessary background for graduate training in soil science, a student should select CHEM 221, MATH 106, and PHYS 141 and 142.

## Soil Science Minor

### Category 1 - Required Courses

Complete these three requirements:

	Hours
SOIL 153 Soil Resources.....	4
SOIL 269 Principles of Soil Management.....	3
or SOIL 361 Soils, Environment & Water Quality	
SOIL 477 Great Plains Field Pedology .....	4

### Category 2 - Advanced Soil Science Courses

Select two courses:	Hours
MSYM 354 Soil & Water Conservation Systems.....	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

Select one course:	Hours
AECN 265 Resources & Environmental Economics...3	3
CIVE 326 Principles of Environmental Engineering...2	2
CIVE 353 Hydrology .....3	3
GEOG 419 Remote Sensing .....3	3
(also GEOL and AGRO 419)	
NRES 281 Hydrogeography .....3	3
(also GEOG, WATS 281)	
SOIL 475 Water Quality Strategy .....3	3
(also AGRO, CIVE, ENGR, GEOL, MSYM, POLS, NRES, and SOCI 475)	

Category 3 courses required in the major cannot be used for the soil science minor.

## Courses of Instruction (SOIL)

**[IS] 153. Soil Resources** (AGRO 153) (4 cr I, II) Lec 1, act 4. Prereq: High school chemistry or one semester of college chemistry.  
For course description, see AGRO 153.

**201. Preparation for an Agronomic Career** (AGRO, RNGE 201) (2 cr II) Lec 2. Prereq: Sophomore standing; major in agronomy, range science, or soil science, or permission.  
For course description, see AGRO 201.

**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 279) (1 cr I, II, max 3)  
For course description, see AGRO 279.

**299. Research Problems and Career Experience** (AGRO, RNGE 299) (1-5 cr I, II, III)  
For course description, see AGRO 299.

**[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, WATS 361) (3 cr II) Lec 3. Prereq: PHYS 141 or equivalent, one year chemistry, one semester biology and one of the following: AGRO 153 or GEOL 101 or CHEM 116 or 221.

Selected soil properties that influence environmental and water quality. Waste site selection criteria, cleanup and remedial action, as well as federal regulations. Particular contaminants discussed vary but can include radioactive materials, pesticides, oil, sewage, nitrates, as well as other organic and inorganic materials. Identifying processes and role soil plays in managing waste. Effects of particle soil properties on contaminant movement and attenuation.

**[IS] 366. Soil Nutrient Relationships** (AGRO 366) (4 cr II) Lec 3, lab 3. Prereq: AGRO 153.  
For course description, see AGRO 366.

**401. Senior Seminar** (AGRO, RNGE 401) (1 cr II) Disc 1. Prereq: 80 credit hours.  
For course description, see AGRO 401.

**455. Soil Chemistry and Mineralogy** (AGRO, NRES 455/855) (3 cr I) Lec 3. Prereq: AGRO 153, CHEM 116 or 221 or equivalent.  
For course description, see AGRO 455/855.

**457. Soil Chemical Measurements** (AGRO, NRES 457/857) (2-3 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.

**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.

**496. Independent Study** (AGRO, RNGE 496/896) (1-6 cr 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 I, II, III) Prereq: Admission to the University Honors Program and permission. AGRI 299H recommended. For course description, see AGRO 499H.

## Water Science

**Head: Professor Glenn Hoffman**, Department of Biological Systems Engineering

### Water Science Curriculum Committee:

Eisenhauer (chair), Blad, Harvey, Hoagland, Kuzelka, Martin, Pederson, Peters, Powers, Skopp, Supalla

The major 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, 34 credits are in an integrated water science curriculum designed to provide both breadth and depth in water resources. The water science major also requires approximately 32 credit hours of science and mathematics. In addition, the student must select an area of specialization consisting of approximately 14 credit hours that are approved through advising. The specialization allows students to develop an individualized area of study. To complete the major the student must take 33 credit hours of communication, humanities and social science courses.

Possible areas of specialization include:

- Aquatic Biology
- Groundwater Hydrology
- Hydrologic Science
- Surface Hydrology
- Watershed Management
- Water Policy
- Water Quality

## Major Requirements

	Hours
<b>Natural Resources</b> .....	<b>11</b>
GEOL 101 Physical Geology .....	4
NRES 103 Food, Agriculture & Natural Resource Systems .....	3
SOIL 153 Soil Resources .....	4
<b>Water Sciences</b> .....	<b>34-35</b>
AECN 465 Resource & Environmental Economics II .....	3
METR 252 Meteorology or NRES 408 Microclimate: The Biological Environment .....	3
NRES 323 Natural Resources Policy .....	3
WATS 281 Hydrogeography .....	3
WATS 354 Soil Conservation & Watershed Management .....	3
WATS 498 Senior Project <sup>1</sup> .....	4
<p><b>NOTE:</b> The Senior Project fulfills the capstone requirement for water science majors. The course consists of two credit hours in each of the last two semesters before a student graduates. The project involves study on an interdisciplinary topic in water resources.</p> <p>Select two courses from: .....</p>	
<p>6</p> <p>AECN 357 Natural Resources &amp; Environmental Law (3 cr)</p> <p>CIVE 353 Hydrology (3 cr)</p> <p>ENTO 402 Aquatic Insects (3 cr)</p> <p>WATS 361 Soils, Environment &amp; Water Quality (3 cr)</p>	
<p>Select three courses from: .....</p>	
<p>9-10</p> <p>GEOL 488 Groundwater Geology (3 cr)</p> <p>NRES 423 Integrated Resource Management (3 cr)</p> <p>WATS 452 Irrigation Systems Management (3 cr)</p> <p>WATS 459 Limnology (3-4 cr)</p> <p>WATS 475 Water Quality Strategy (3 cr)</p>	
<b>Natural Sciences</b> .....	<b>24-25</b>
BIOS 101 and 101L General Biology and Lab.....	4
BIOS 109 General Botany or BIOS 112 Intro to Zoology .....	4
BIOS 320 Principles of Ecology .....	3
BIOS 322 Principles of Ecology Lab .....	1
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
MSYM 109 Physical Principles in Agriculture... or PHYS 141 Elementary General Physics (5 cr) or PHYS 211 General Physics I (4 cr)	4-5
<b>Mathematics</b> .....	<b>8</b>
BIOM 201 Intro to Biometry .....	3
or MATH 180 Elements of Statistics	
MATH 106 Analytic Geometry & Calculus I .....	5
<b>Communication</b> .....	<b>9</b>
Written Communication .....	3
<p>Select from: ENGL 150, 151, 254; CURR 120; JGEN 200 or 300</p>	
Oral Communication .....	3
<p>Select from: COMM 109, 209, 212, or 311</p>	
Communication and Interpersonal Skills electives .....	3
<p>Select from: ENGL 101, 102, 150, 151, 252, 253, 254, 255; CURR 120, 325; ALEC 102; JGEN 200, 300; COMM 109, 209, 212, or 311</p>	
<b>Humanities and Social Sciences</b> .....	<b>21</b>
ECON 211 .....	3
ECON 212 or AECN 141 .....	3

Essential Studies..... 15

Select one 3-credit course in each of the following five CASNR Essential Studies categories: (For the listing of ES/IS courses see "Essential Studies Program List" on page 14.)

- Human Behavior, Culture & Social Organization
- Historical Studies
- Humanities
- Arts
- Race, Ethnicity & Gender

**Free Elective** .....

**NOTE:** One 3-credit course with an international focus is to be selected from the lists under "International Affairs Minor (Agricultural Emphasis)" on page 61.

**Water Science Specialization** .....

All majors must complete a specialization in an area of individualized study designed by the student in consultation with an adviser. The specialization must be filed with and approved by the Water Science Curriculum Committee before 60 credit hours have been completed. Transfer students must file their plan during their first year. Six of the approved hours must be at the 300 level or above.

**Total Credit Hours for Graduation**..... 128

## Water Science Minor

	Hours
<b>Required Courses</b> .....	<b>6</b>
WATS 281 Hydrogeography .....	3
WATS 354 Soil Conservation & Watershed Management .....	3
<b>Advanced Science, Policy &amp; Management Courses</b> .....	<b>12-13</b>
<p>Science courses (select at least two courses)</p> <p>CIVE 353 Hydrology (3 cr)</p> <p>ENTO 402 Aquatic Insects (3cr)</p> <p>GEOL 488 Groundwater Geology (3 cr)</p> <p>WATS 361 Soils, Environment &amp; Water Quality (3 cr)</p> <p>WATS 408 Microclimate: The Biological Environment (3 cr)</p> <p>WATS 452 Irrigation Systems Management (3 cr)</p> <p>WATS 459 Limnology (4 cr)</p> <p>WATS 461 Soil Physic (3 cr)</p>	
<p>Policy and management courses (select at least one course)</p> <p>AECN 357 Natural Resources &amp; Environmental Law (3cr)</p> <p>AECN 465 Resource &amp; Environmental Economics II (3 cr)</p> <p>NRES 323 Natural Resources Policy (3 cr)</p> <p>NRES 423 Integrated Resources Management (3 cr)</p> <p>WATS 475 Water Quality Strategies (3 cr)</p>	

## Courses of Instruction (WATS)

**[IS] 281. Hydrogeography** (GEOG, NRES 281) (3 cr I) Prereq: GEOG 150 or permission.

For course description, see NRES 281.

**299. Career Experiences** (1-5 cr, I, II, III) Prereq: Permission and advanced approval of plan or work. *P/N 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, SOIL 361) (3 cr II) Lec 3. Prereq: PHYS 141 or equivalent, one year chemistry, one semester biology and one of the following: AGRO 153 or GEOL 101 or CHEM 116 or 221.

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.

**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.

**459. Limnology** (BIOS, NRES 459/859) (4 cr II) Lec 3, lab 4. Prereq: 12 hrs biological sciences, including introductory ecology; 2 sems chemistry. 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.

**468. Wetlands** (BIOS 458, NRES 468/868) (4 cr II) Lec 4. Prereq: 12 hrs biological sciences; BIOS 320; CHEM 109 and 110. *Offered even-numbered calendar years.* For course description, see NRES 468/868.

**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, 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, 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.

## Prenatural Resources Program

**Coordinator:** Steven S. Waller

### Integrated Natural Resources Management

The courses listed below compose a non-degree program entitled Integrated Natural Resources Management. The program is designed for students who are interested in a bachelor of science degree in natural resources but are uncertain about a specific major. This list of suggested courses should provide the student maximum flexibility while ensuring that courses contribute to the degree programs of any of the majors within natural resources. Students may be in the program for two years (62 credit hours). Students may declare a major at any time during this program, but must declare a major at the completion of 62 hours.

**Semester 1** **Hours**  
 BIOS 101 and 101L General Biology and Lab ..... 4  
 MATH 102 ..... 2  
 NRES 103 Food, Agriculture & Natural Resources Systems ..... 3  
 Orientation and Education Planning ..... 3

*Select from:* UFND 101 Student Life in the Academic Community (2 cr) and UFND 102 Student Life in the Academic Community (1 cr)  
 Written Communications Elective\* ..... 3  
**Total.....15**

**Semester 2** **Hours**  
 SOIL 153 Soil Resources ..... 4  
 Biological Science Elective ..... 4  
 Humanities and Social Sciences Elective\* ..... 3  
 Math or Statistics Elective ..... 3  
**Total.....14**

**Semester 3** **Hours**  
 AECN 141 Intro to Economics of Agriculture ..... 3  
 CHEM 109 General Chemistry I ..... 4  
 NRES 211 Wildlife Biology & Conservation ..... 3  
 NRES 281 Hydrogeography ..... 3  
 Humanities and Social Sciences Elective\* ..... 3  
**Total.....16**

**Semester 4** **Hours**  
 CHEM 110 General Chemistry II ..... 4  
 RNGE 240 Forage Crop & Range Management ..... 4  
 Humanities and Social Science Electives\* ..... 6  
 Oral Communications\* ..... 3  
**Total.....17**

**Total Credit Hours.....62**

\* For the listing of courses, see "Essential Studies Program List" on page 14.

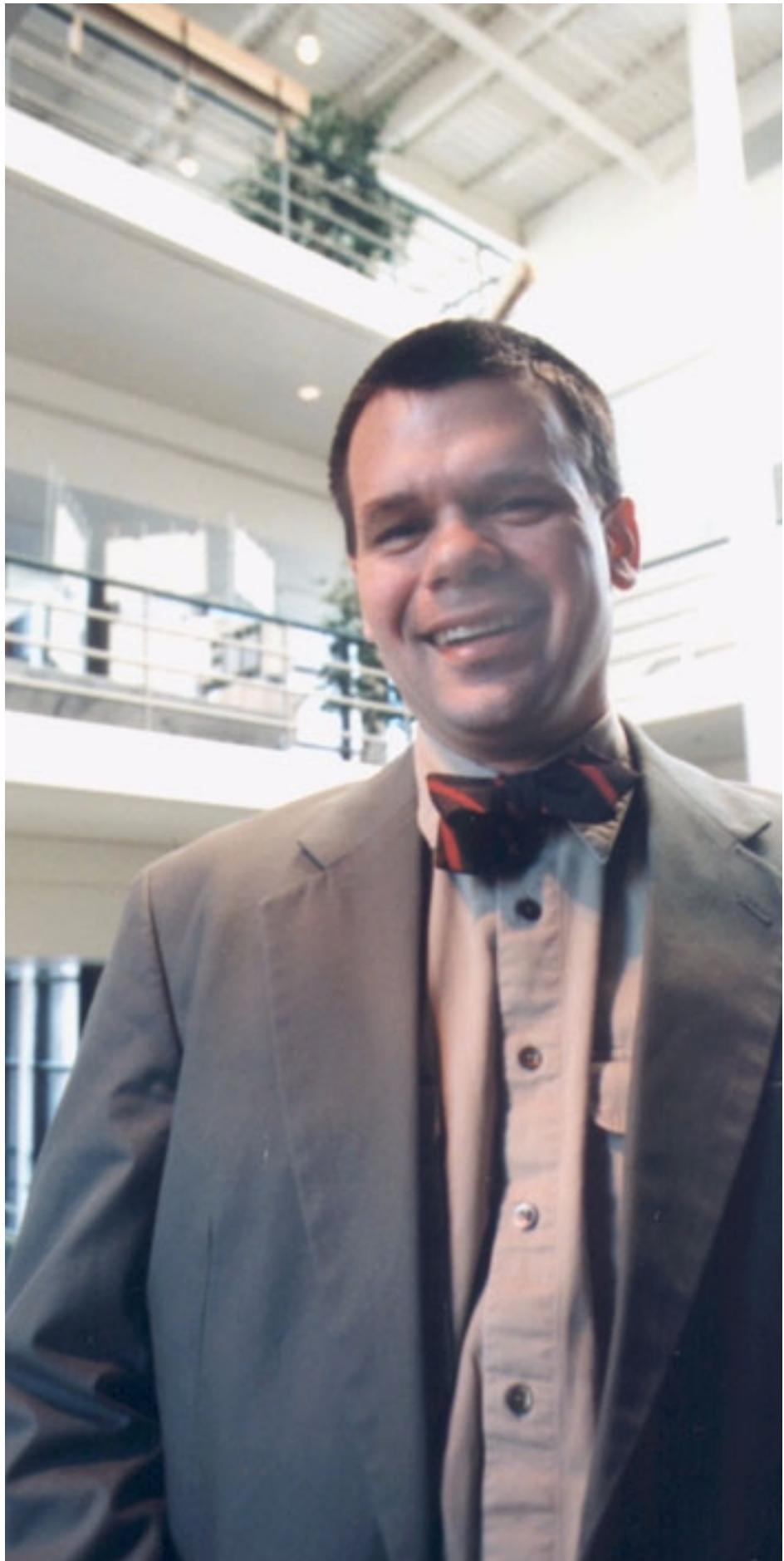
## Brian Rex

"I can't imagine doing anything but architectural design and being involved in beginning-level college teaching. Architecture is a way of thinking that you can bring to bear on many other things in life. You are defined by what you make, not what you know.

"I design through teaching, the designing of a curriculum. If the curriculum is well designed and clear, students are going to learn more. I cannot tell students how to design; they can only learn to design through designing. But the students and I are on an expedition together, and I am the guide, the Sherpa. It is an intensively mistake-driven process where students learn by knowing what not to do. Students have to be insatiably curious about things around them and willing to accept that everything they do isn't going to be great.

"When I develop teams to work on projects, I bring together students with a broad range of experience because each level has its own role. The sixth year student becomes a de facto critic for the younger students, the fourth year student knows how to make things work, and the second and third year students dream up things that I never would have thought of. I focus more on process and how we design, and the students focus more on what we are designing and where it can lead us."

*Brian Rex is an assistant professor of architecture in the College of Architecture.*



# College of Architecture

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**R. Wayne Drummond**, FAIA, Dean and Professor of Architecture  
**Sharon S. Baum Kuska**, Ph.D., P.E., Interim Associate Dean and Associate Professor of Architecture  
**Mark A. Hoistad**, A.I.A., Interim Associate Dean and Associate Professor of Architecture

## About the College

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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 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 towards 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 650 students are enrolled in classes, learning with a faculty of 38 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, 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, 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 on "the spaceship earth" but especially for the residents of the Great Plains of the United States.

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.

Interdisciplinary research and community service are important in the College of Architecture. Emphasis is placed on 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 and the 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 members 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 is also a participant in the Nebraska Lied Main Street Program. Unlike other states working with the National Main Street Center, Nebraska is harnessing the strengths of the College of Architecture, State Department of Economic Development, the State Historical Society and the State Department of Roads to provide a comprehensive community development and historic preservation program to communities. The benefit of this state coordinated effort is that communities receive a higher quality of service than if the program was run independent of the state agen-

cies. Also, the individual state agencies learn some of the "trade secrets" of the Main Street approach which they can reuse with other programs that are created in the future.

The College of Architecture is a member of the Architectural Research Centers Consortium. The Consortium seeks to strengthen the contributions of architecture to the solution of critical national problems by undertaking large-scale research projects. Established by the American Institute of Architects Research Corporation and leading university-based research centers, the Architectural Research Centers Consortium provides a significant research dimension to the College of Architecture.

The College of Architecture is also a co-participant in the Associated Design Professions, working with the American Institute of Architects, American Planning Association, American Institute of Certified Planners, American Society of Interior Designers, and American Society of Landscape Architects to bring continuing professional education programs to the Midwest region.

The College of Architecture is affiliated with the Joslyn Castle Institute for Sustainable Communities. Created in 1996, the institute focuses on the built environment to promote sustainable development. The Institute, through its education, research, and outreach programs, seeks to improve the capacity of communities to address issues of environmental concern in harmony with economic development.

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

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The College of Architecture consists of two academic departments: the Department of Architecture and the Department of Community and Regional Planning. The Department of Architecture consists of the pre-architecture program, the professional program in architecture, the post-professional graduate program in architecture, and the program in interior design. The Department of Community and Regional Planning is exclusively a graduate degree program.

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 Department of Architecture's professional program. The administrative reorganization of the professional program in architecture was approved by the Board of Regents in 1992 and has been approved by the Nebraska Coordinating Commission for Post-Secondary Education. The professional program in architecture

consists of two components: the two-year **bachelor of science in architectural studies** (BSAS-Architecture) major and the subsequent two-year master of architecture major. **The bachelor of science in architectural studies 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 Student Affairs Committee on an individual basis after a review of the applicant's transcripts and other pertinent professionally-related materials. 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.

The Department of Architecture also offers a 36 credit hour, post-professional **master of science in architecture degree for students possessing a first professional degree in architecture.** In addition, students can gain the **doctor of 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 Teachers College. The program is designed for students interested in going beyond the professional degree in architecture to become educators about architecture. 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.

Specifically, students in the program will be exposed to core areas in the field of higher education, especially as these relate to colleges and programs in architecture. Core areas of the program in higher education, a focus on course work in the various social science disciplines of economics, organizational theory, politics, and sociology, and specific work in areas of advanced architectural education will accomplish the goal of providing students with a broad preparatory base for assuming faculty and/or administrative positions in colleges or programs in architecture.

The Department 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 architectural studies (BSAS-Interior Design) major. After completing a two-year curriculum in pre-interior design, students apply for admission into the Department of Architecture's interior design program. This interior design program is fully accredited by the Foundation for Interior Design Education and Research (FIDER).

The Department of Community and Regional Planning offers the two-year professional master of community and regional planning degree which is fully accredited by the Planning Accreditation Board (PAB).

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 either Interim Associate Dean Sharon S. Baum Kuska or Admissions Coordinator Faye Kopke at 472-4065.

## Facilities

The College is headquartered in Architecture Hall. All facilities of this unique and historic complex are located within the southwestern "fine arts" 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.

The facilities of the College of Architecture underwent a \$4.4 million renovation and remodeling project in 1985. This 91,000-square-foot complex provides students and faculty with one of the finest facilities in the nation for the study of architecture, interior design, and planning.

**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 300 national and international magazines and journals in its subject areas, and has a slide collection of 50,000. 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 owned equipment includes microcomputer desktop work stations in DOS/WINDOWS and OS MAC operating systems.

Students admitted to the Professional Program in the Architecture and Interior Design Programs are required to own their own laptop computers, which are used intensively in design studios.

Several computer applications software packages are supported by the College. The applications include CAD, solid modeling, animation, image processing, multi-media applications, 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 and Hank Hildebrandt.

## Alumni Association

The University of Nebraska's College of Architecture Alumni Association was founded in 1982 to encourage 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 Alumni 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 and its predecessor organizations 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:

**Douglas Bereuter**, Nebraska Congressman, First District, Washington, DC

**Frederick S. Bucholz**, CEO, Plastilite Corporation, Omaha, Nebraska

**James Caruso**, AICP; Director, Planning and Community Development, Nebraska Investment Finance Authority, Lincoln, Nebraska

**Thomas Chastain**, AIA; Assistant Professor, University of California-Berkeley, Berkley, California.

**Chris Coonan**, Project Architect, Dayton, Hudson Corporation Property Development, Minneapolis, Minnesota

**Rick Cunningham**, AIA; Vice President, HDR Engineering Inc., Kansas City, Missouri

**Leo A Daly III**, President, Leo A Daly Company, Omaha, Nebraska

**Robert Douglass**, FAIA; Missouri City, Texas

**Keith Dubas**, AIA; Consultant, Lincoln, Nebraska

**Stephen M. Eveans**, AIA; Johnson-Erickson-O'Brien & Associates, Wahoo, Nebraska

**Thomas L. Findley**, AIA; Vice President, Leo A Daly Company, Omaha, Nebraska

**Neil P. Frankel**, AIA/IIDA; Frankel + Coleman, Chicago, Illinois

**George Haecker**, AIA; Principal, Bahr Vermeer & Haecker Architects, Omaha, Nebraska

**David Howlett**, Price Howlett, Inc., Denver, Colorado

**Timothy Keelan**, Principal, Hanna Keelan Associates, Lincoln, Nebraska

**JoAnne D. Kissel**, Principal & Planner, Sinclair Hille & Associates, Lincoln, Nebraska

**Kim Larsen**, AIA; West St. Paul, Minnesota

**Eva L. Maddox**, President & Creative Strategist, Eva Maddox Associates Inc., Chicago, Illinois

**Steve W. Moody**, The Callison Partnership, Ltd., Seattle, Washington

**H. David Nelson**, AIA, ASID; University of Nebraska Medical Center, Omaha, Nebraska

**Michael E. Ossian**, AIA; H+L Architecture, Ltd., Denver, Colorado

**Mary K. Pritzker**, ASID; Evanston, Illinois

**Kent Seacrest**, Attorney, Seacrest & Kalkowski, Lincoln, Nebraska

**Jeff Schneider**, AIA; CSHQA Architects/Engineers/Planners, Boise, Idaho

**Nancy Stark**, Architect, Shoreview, Minnesota

**A. P. Victors**, Victors & Associates, Portola Valley, California

**Janet Rothberg White**, FAIA; Vice President for Education, The American Institute of Architects, Washington, DC

**Robin L. Wilson**, ASID; Lincoln, Nebraska

**Bertha Koch Award**. This scholarship award is available to Nebraska residents who are enrolled in at least 6 credits per semester in the pre-interior design major at the University of Nebraska at Omaha.

**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.

## 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.

## Department of Architecture Faculty Scholarship

Awarded annually to students entering or enrolled in the Department of

Architecture by the faculty.

## 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.

## 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.

## 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.

**Henningson Durham & Richardson Graduate Scholarship in Architecture**. Awarded annually to a master of architecture student who is making satisfactory progress toward the professional degree and is considered to be worthy and deserving.

## Herold W. Seng Memorial Scholarship in Architecture

Available annually to male students enrolled in the Department of Architecture who require financial assistance to complete their studies in architecture.

## Departmental 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.

**1. 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.

**2. Architectural Excellence**. Presented to a master's degree student. GPA and portfolio would be the basis of selection. Student must be a graduate or enrolled in the master's program for architecture at the UNL College of Architecture.

**3. 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 master's 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.

**4. 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/AIA 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.

## AI (Albert) Stone Memorial Scholarship

Awarded to interior design students entering the professional program in the College of Architecture.

**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.

**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.

**Mary E. Roelfs Scholarship.** Awarded to full-time undergraduate students in the Department of Architecture.

**Nebraska Concrete Masonry Association Architectural Scholarship.** Awarded annually to Fourth Year students in the BS in architectural studies program.

**Nebraska Concrete Aggregate Association Scholarship.** Scholarships totaling \$750 are awarded annually to winners of a design competition for Fourth Year students in the BS in architectural studies program.

**Professor Dale Gibbs Honor Scholarship.** Enhances current efforts to recruit and retain outstanding young scholars in coordination with the University Honors Program.

**South Dakota Society of the American Institute of Architects Scholarship.** Awarded annually to students in the professional program in architecture who are residents of South Dakota. Nominees from UNL are placed in competition with students from several other midwestern schools of architecture. Nominees must be of good character and show above average scholarly ability.

**Thomas Rogers Kimball Fellowship.** This scholarship is available to master of architecture students who desire to pursue a career in the fields of architectural preservation and/or architectural history. Candidates must be native Nebraskans, maintain a minimum GPA of 3.2, participate in extracurricular activities, and uphold Kimball's belief of the architect's responsibility to society, i.e., "The interest of the public is supreme, the interest of the client is next, and my own personal interest last."

**Yankee Hill Brick and Tile Architectural Scholarship.** Awarded annually to winners of a design competition to students in the first year of the master of architecture program.

## 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 College of Architecture are assigned a faculty adviser who shares their interests and from whom they may ask 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 departmental offices house student records and the staff is helpful in checking on degree requirements and University procedures and policies.

The Dean's Office provides information for prospective and entering students who are seeking admission to the College of 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 Department of Community and Regional Planning, based upon academic grade point average and general faculty evaluation of the student's academic achievement.

**Bahr Vermeer & Haecker Architectural Leadership Program.** An annual program recognizing academic performance and the promise of professional achievement among students in the Department of Architecture. Students participate in an intensive leadership development program funded and conducted by the staff and principals of Bahr Vermeer & Haecker, Architects.

**College of Architecture Alumni Association Outstanding Students Award.** Awarded annually to graduating students in the BSAS, 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 BSAS program for scholastic achievement and progress.

**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 Department of Community and Regional Planning 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 Department of Community and Regional Planning 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 Department of Community and Regional Planning.

**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.

## Graduate Teaching and Research Assistantships

The Department of Architecture has several graduate teaching and research assistantships available each year. Students accepted into the master of architecture program 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 Department of Architecture Office) should be sent to the chair of the Department of Architecture before February 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. (P/N 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 3.6 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 year in the architecture option (first through sixth year),
2. One student from each year in the interior design option (first through fourth year), and
3. Two graduate students from the Department of Community and Regional Planning.

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 (ex officio),
- e. SPAN president (ex officio), and
- f. ASID student chapter president (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 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.

### Women in Architecture

Founded in the summer of 1984, the Women in Architecture (WIA) organization seeks to provide formal and informal support and career development for women students and practicing professionals. The WIA makes recommendation to the various design programs within the College of Architecture and the University, seeks out and assists with financial support for academic and research activities, hosts visiting speakers, provides a counseling service, and conducts various professional and social activities during the year.

### American Society of Interior Design

Students in the interior design option are eligible for membership in the student chapter, American Society of Interior Design, and upon graduation may become allied members of ASID.

### 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.

### National Organization of Minority Architects

The student chapter of NOMA is open to all qualified individuals irrespective of race, creed, or nationality. The NOMA chapter encourages and promotes fellowship, cooperation, communication, and solidarity among students in the College of Architecture, as well as providing recommendations on policies affecting the students of the College and University. The student chapter seeks to encourage appreciation of multi-cultural issues in the allied design professions by hosting speakers, sponsoring conferences, and hosting various events during the year.

## 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 first year of the MArch 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.

**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 Department of Architecture the opportunity to study urban and architectural design in a cross-cultural and comparative manner. Under the direction of a faculty member of the Department of Architecture, 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. Hiko Takeda, serves as adjunct professor to the College and provides invaluable professional and cultural assistance to visiting UNL faculty and students.

**Monteverde, Costa Rica.** During the summer 3-week pre-session, the Community and Regional Planning Department is offering 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 5th and 6th year students in the professional program in architecture. To be eligible for this program, students should have completed one semester of academic work at the 5th or 6th year level and must have at least one semester left after completing the internship. 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, if accepted, will be placed in a professional office and monitored by the department'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 Department of Community and Regional Planning 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 Department of Community and Regional Planning, 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 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 June 30th for fall admission and December 15 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.**

**Missouri Exchange Program.** The University of Nebraska–Lincoln has a reciprocal exchange program with the University of Missouri through which students who are residents of Missouri may enroll in architecture or community and regional planning in Nebraska paying resident tuition. A Missouri resident interested in UNL's architecture and/or community and regional planning programs must apply for admission to UNL as a nonresident.

Students enrolled in the interior design option are not eligible for the Missouri Exchange Program.

Upon acceptance to UNL as an out-of-state student, a Missouri resident must notify the UNL Office of Admissions and establish proof of Missouri residency. The burden of proof rests with each applicant.

A Missouri student must be accepted into the College of Architecture's pre-architecture program, Department of Architecture, or Department of Community and Regional Planning in order to be eligible for in-state tuition.

**Each semester, the Missouri student must obtain a voucher waiving the non-resident portion of his/her tuition from the Department of Architecture to submit prior to the tuition payment waiving the nonresident portion of his/her tuition.**

## 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-half unit of trigonometry, and one-half 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 5 of this bulletin.

## 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 is governed by University policies for removal of deficiencies.

## 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 dean of the College 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.

### New transfer students must:

- have a minimum 2.6 cumulative GPA 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, **and**
- have a minimum 2.6 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 2.6 cumulative GPA 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 2.6 cumulative GPA, be in good scholastic standing and receive permission from the Dean of the College. Students may apply for admittance into the pre-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 Dean of the College of Architecture will select and identify those courses that are applicable to the professional program in architecture and the interior design program. **The College of Architecture will not accept courses for transfer in which a D or F grade was received.**

**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 Dean and/or appropriate departmental 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 Department of Architecture. 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:

1. It is the student's responsibility to initiate this task,
2. The student procedure is to obtain the confirmation form from the Dean's office and to seek review of appropriate materials, and
3. 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 Dean's Office. If the evaluation is not satisfactorily resolved, the student has the right to register an appeal with the Student Affairs Committee of the Department of Architecture.

### **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 associate dean of the College.

### **Recommended Courses**

Art Studio elective (10 hrs)  
 Calculus (5 hrs) for pre-architecture or for pre-interior design, Statistics (3 hrs)  
 English Composition electives (6 hrs)  
 Humanities and Social Sciences electives (9 hrs)  
*See UNL ES/IS requirements*  
 Physics (4 hrs) or Natural Science for pre-interior design (4 hrs)  
 Speech (3 hrs)

## **College Academic Policies**

### **College of Architecture Enrollment Policy**

Enrollment in the pre-architecture and pre-interior design 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 major shall be only once a year, for the fall semester. Admission to the pre-interior design major shall continue to be all year.

### **Scholastic Standards for Pre-Architecture and Pre-Interior Design Students**

The following scholastic standards have been established for students enrolled in the pre-architecture and pre-interior design programs.

First-year pre-architecture and pre-interior design students (32 hrs or less) who receive a semester grade point average of less than 2.0 **or** with a cumulative GPA below 2.0 will be placed on academic probation. The student will remain on probation until a semester is completed with **both** a semester and cumulative GPA at or above 2.0 or until the student is academically dismissed. After two consecutive semesters on academic probation, pre-architecture and pre-interior design students will be transferred out of the College of Architecture and into General Studies. (See "Academic Standards" on page 11).

Second year pre-architecture and pre-interior design students (33 hours or more without being accepted to third year) who receive a semester grade point average of less than 2.6 or with a cumulative GPA below 2.6 will be placed on academic probation. The student will remain on probation until a semester is completed with both a semester and cumulative GPA at or above 2.6. After two consecutive semesters on academic probation, pre-architecture and pre-interior design students will be transferred out of the College of Architecture and into General Studies.

Pre-architecture and pre-interior design students who are placed on academic probation will not be allowed to take any new architecture and interior design courses without the permission of the department chair; however, students may retake architecture and interior design courses in which they have received a D or F. Students may take any one architecture and interior design course a maximum of three times. *Students who register for new architecture and interior design courses while on probation will be administratively dropped from those courses.*

Pre-architecture and pre-interior design students who remain on academic probation for two consecutive semesters or are suspended from the University will be transferred out of the College of Architecture and into General Studies.

### **Essential Studies/Integrative Studies**

#### **Humanities, Sciences, History and the Arts Requirements**

Since fall semester 1995 all incoming freshmen have been required to meet the University's Comprehensive Education Program. This requires students to take courses under the categories Integrative Studies and Essential Studies.

**Essential Studies [ES].** Are courses aimed at giving the undergraduate an expanded horizon and fuller intellectual perspective. Each student is required to take nine ES courses as specified under each heading.

**Integrative Studies [IS].** Courses aimed at developing the critical inquiry abilities of the undergraduate student. Each undergraduate is required to take ten IS courses. There are two conditions on the ten IS courses:

- a student may not take more than three courses in any one department;
- a student must take at least one course at the 200, 300, and 400 level.

Students should consult the listing of ES and IS courses and review selections with their adviser. A complete list of all IS and ES courses is located in the front of this bulletin.

## English Courses

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 in the College of Architecture must do more than meet the English composition course requirements. 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.

English 186, 187 and 192 may not be used to satisfy the freshman English composition requirement. English 188 ESL does satisfy the English composition requirement for 3 hours credit.

## Military Science, Naval Science, Aerospace Studies and/or Physical Education

A maximum combination of military science, naval science, aerospace studies and/or physical education totaling 6 credit hours can be applied toward the bachelor of science in architectural studies degree as elective credit.

## Special Permission

Undergraduate students are not permitted to carry more than 18 credit hours without special permission from the dean.

## Class Standing and Promotion

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.

A student will receive a grade in each course upon its completion. In the College of Architecture the grades are A+, A, B+, B, C+, C, D+, D (minimum passing grade), and F (failure). These grades will be recorded in the official University records as 4 for A+ and A, 3.5 for B+, 3 for B, 2.5 for C+, 2 for C, 1.5 for D+, 1 for D, and 0 for F.

## Policy on Incompletes

Incompletes 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.

**College of 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.**

## Pass/No Pass Policy

1. A student may apply for a maximum of 12 pass/no pass credit hours of Essential Studies/Integrative Studies electives or open electives taught by departments outside of the College of Architecture.
2. Pass/no pass credit shall not be allowed to fulfill the required major supporting courses in English composition, art, art history, natural science, speech, physics, or math; nor shall pass/no pass credit be used to fulfill the "professional elective" requirements in architecture or interior design.
3. No student shall enroll in more than six pass/no pass credit hours during any one semester.
4. The College of Architecture will accept transfer courses graded "pass" when the course work directly corresponds to the BS in architectural studies degree requirements. Such transfer credits, graded as "pass" will be used for electives only as specified in Item 1. If the number of transfer "pass" credits established above for students enrolled in the College of Architecture, a transfer student will not be allowed to apply any additional "pass" credit taken at UNL or any other institution toward the BS in architectural studies degree.

## Grading Appeals

A student wishing to appeal a grade should contact his or her professor for clarification first. If the dispute cannot be resolved, an appeal may be filed with the Faculty Affairs Committee. This committee is charged with investigating appeals from students who feel they have received prejudiced or capricious treatment and with recommending appropriate action to the departmental chair. Before preparing a lengthy documentation for an appeal, a student should discuss the matter with the chair of the Faculty Affairs Committee.

The deadline for formally filing an appeal that includes a written brief is 30 days after the first day of classes of the next regular semester (fall or spring) following the completion of the course in question. Appeals filed after the deadline will not be heard.

## Course Substitutions

Students wishing to modify their course or elective requirements must petition the Professional Program Committee of the Department of Architecture by filling out a substitutions form. Substitution and waiver forms are available in the department office. Completed forms must be reviewed by the student's adviser before being submitted to the Professional Program Committee. A ruling of the Professional Program Committee can be appealed by contacting the chair of the department.

Students are advised to have substitutions approved **before** enrolling in a substitute course.

## Requirements for Graduation

To earn the bachelor of science in architectural studies degree, students must:

1. Complete all course requirements in the architecture option or the interior design option and earn at least 129 semester hours of credit.

2. Attain a cumulative GPA of at least 2.6 in their final semester.
3. Complete at least 30 of their last 36 hours of credit in residence in the College of Architecture, and
4. Be certified by the faculty as qualified for graduation. A signed senior check form must be on file.

The College reserves the right to withdraw a student's name from the graduation list if requirements are not satisfied.

## Senior 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 filed in the students' advising folders.

Students must complete senior checks with their advisers and submit them to the department vice-chair, chair and associate dean for final processing and approval during early registration for their last semester in the BSAS program.

Students 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.**

## Graduate Credit for Seniors

Seniors in this University who have obtained in advance the approval of the dean for Graduate Studies and the department graduate committee may receive up to 12 hours credit 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 needing no 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 baccalaureates within one calendar year. They must file an application for admission to Graduate Studies and, if admitted, their registrations may count as residence in the Graduate College.

## Ownership of Class Work

Significant student work will be retained on file by the department 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 lockers will be confiscated after completion of spring semester.**

## Portfolio of Student Design Work

Students are encouraged to start a portfolio of their design work during the first pre-architecture or pre-interior design year and systematically add to it after each semester has been completed. A review of student design work is required for students applying for the Professional Program in Architecture at the 3rd year or the 3rd year of the Interior Design program.

## Advanced Degrees

Students who wish to take graduate studies must make application to the Graduate College. Qualified graduates of the UNL BS in architectural studies program are encouraged to continue their professional studies in the master of architecture or master of community and regional planning programs on this campus and should meet with a graduate adviser during their final undergraduate year before making application. Qualified graduates of accredited programs in architecture, architectural studies, or technically related fields from other institutions are also invited to apply for work leading to a master of architecture degree.

## Degree Programs and Areas of Study

### Department of Architecture

**Chair:** David Cronrath, 232 Architecture Hall  
**Vice Chair:** Robert Duncan, 228 Architecture Hall  
**Professors:** Borner, Cronrath, Duncan, Laging, Luther, Maller, Mutunayagam, Potter, Sawyers, Scholz, Steward  
**Associate Professors:** Benson, Case, Ertl, Gabb, Hoistad, Krug, Kuska, Matthews, Yan  
**Assistant Professors:** Ankerson, Handa, Hinchman, Rex, Watson  
**Professors Emeritus:** Corkill, Gibbs, Guenter, Moore, Puderbaugh, Wright

The primary responsibility of the architectural and interior design professions is the design of meaningful environments for human occupation and use. Architects and interior designers, 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 Department of Architecture seeks to increase students' desire to learn and to develop a capacity for critical thinking and sound judgment; 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, initiate and review changes in technology and society, and
5. Participate in the community that makes decisions affecting the physical environment.

### The Interior Design Program

**Program Coordinator:** Betsy Gabb, 231 Architectural Hall

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 Department of Architecture, students in the interior design program may enroll in the curriculum which leads to a bachelor of science in architectural studies (BSAS-Interior Design) degree.

### Pre-Interior Design Curriculum

Completion of the pre-interior design program is required for admission to the Department of Architecture. The pre-interior design curriculum can be referenced through the current listing of courses available in room 210 in the College of Architecture, or on the department web page.

### Third Year Admission

See "Admission to the Department of Architecture (Third Year)" on page 109.

### Professional Program in Architecture

This is a six-year curriculum culminating in the master of architecture professional degree.

### Pre-Architecture Curriculum

Completion of the pre-architecture program is required for admission to the Department of Architecture (third year admission). The pre-architecture curriculum can be referenced through the current listing of courses available in room 210 in the College of Architecture, or the department web page.

### Third Year Admission

See "Admission to the Department of Architecture (Third Year)" on page 109.

### Admission to Fifth Year

See "The 5th and 6th Year of the Professional Program in Architecture" on page 110.

### Admission to the Department of Architecture (Third Year)

After completion of the first two years of pre-architecture or pre-interior design studies, either within the College of Architecture or at another institution, students may apply for admission to the Department of Architecture.

Pre-architecture majors should apply for admission to the department's professional program in architecture. Successful applicants will have their major changed from pre-architecture to BSAS-Architecture option. Pre-interior design majors should apply for admission to the department's interior design program. Successful applicants will have their major changed from pre-interior design to BSAS-Interior Design option.

**All applications for admission require the signature of an architecture college academic adviser.**

Available teaching resources and space capacities limit enrollment to the third year of architectural and interior design studies; therefore enrollment limits are established each semester.

Required courses must be completed before advancing to the next year of study.

### Third Year Admission

1. An application for admission may be secured from the department of architecture office. The Department receives applications once a year in early February.
2. Applicants will be required to submit examples of their design, visual communication, and graphic projects from the pre-architecture and pre-interior design courses ARCH 140, 140L, 141, 141L, 210, 211, 220, 221, and 223.
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 Department of Architecture only three times.

### Minimum Entrance Requirements

To be considered for admission to the Department of Architecture, applicants must:

1. Be enrolled in the College of Architecture,
2. Be in good scholastic standing, and
3. Have completed the appropriate 1st and 2nd year pre-architecture or pre-interior design program of study.

### Evaluation

The Student Affairs Committee of the department will carefully evaluate the applications for admission. **Primary attention will be given to the applicants' performance in ARCH 106, 140, 140L, 141, 141L, 210, 211, 220, 221, 223, and 240, and/or the transfer equivalents of these courses.**

## Selection

Admission to the Department of Architecture 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 or the interior design program if it determines that the remaining applicants have not performed at an acceptable level.

**Pre-architecture and pre-interior design students may not proceed with the 3rd and 4th year courses in the professional program in architecture or the interior design program without admission to the Department of Architecture.**

## Scholastic Standards

The following scholastic standards have been established to maintain the level of quality for students enrolled in the 3rd and 4th year of the programs in the Department of Architecture.

**Students admitted to the Department of Architecture** shall continue to be governed by UNL scholastic standards and requirements. In addition, these architecture and interior design majors shall be required to maintain a minimum 2.6 cumulative GPA or they will be placed on academic probation by the Department of Architecture. BSAS students on probation will not be allowed to take any new architecture and interior design courses without the permission of the department chairperson. However, students will be allowed to retake architecture and interior design courses while on probation. Students may not take the same architecture and interior design courses more than three times. Students placed on scholastic probation by the Department of Architecture for two consecutive semesters will be transferred out of the College of Architecture and must reapply for admission to the College and the Department of Architecture.

**Appeals procedures for undergraduate students.** If a student wishes to appeal a dismissal/suspension from the University or the College or the Department, the student must contact his or her adviser. The student should complete the Academic Reinstatement Appeal form available in the Dean or Department office.

**Readmission to the Department of Architecture.** Former students who withdraw after being admitted to the Department, 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.

## The 3rd and 4th Year of the Professional Program in Architecture

The professional program in architecture is a four-year course of study, which commences with the student's junior year, awards the bachelor of science in architectural studies at the end of the senior year, and culminates with the first

professional degree, the master of architecture degree, after an additional two years of study. Students must have successfully completed the two-year pre-architecture program before entering the four-year professional program in architecture.

Although the bachelor of science in architectural studies degree is an integral part of the four-year professional program in architecture, it should be clearly understood that the undergraduate BSAS 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 BSAS degree and the MArch degree.

During the spring semester of the fourth year, students must make application to the fifth year of study and the master of architecture degree program of study.

## Professional Electives

All students in the 3rd and 4th year of the professional program in architecture will be required to take a minimum of 3 credit hours of professional electives offered by the College of Architecture.

## Structured Electives

Students in the 3rd and 4th year of the professional program in architecture may develop an emphasis in one of several related areas of architectural practice. Such an emphasis is achieved through the use of a structured elective sequence. Students interested in developing an area of emphasis are urged to explore this option with their academic advisor at the earliest possible date. Information regarding the various elective sequences is available in the departmental office.

## The 5th and 6th Year of the Professional Program in Architecture

The 5th and 6th year of 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.

## Admission to the 5th and 6th Year of the Professional Program in Architecture

Admission to the 5th and 6th year of the professional program in architecture and the master of architecture degree, as well as 3-year master of architecture degree applicants, is acquired through submission of an application.

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 Graduate School. These are published in the UNL Graduate Bulletin.

## Minimum Entrance Requirements

To be considered for admission to the 5th and 6th year of the professional program in architecture, applicants must:

- Present a portfolio of design work,
- Be in good scholastic standing, and
- Have a B average or its equivalent in past academic programs.

The Student Affairs Committee of the Department of Architecture requires a minimum TOEFL of 550 or 213 computer based for all international student applicants whose first language is not English.

## Evaluation

**Applicants with Architecture Degrees.** A portfolio of an applicant's recent design work will be evaluated by the Student Affairs Committee of the Department of Architecture 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.

## 5th and 6th Year Curriculum

For students holding the four-year bachelor of science degree in architectural studies (in architecture), or candidates with equivalent baccalaureate degrees in architectural or environmental studies granted by accredited institutions, the 5th and 6th year of the professional program requires 54 credit hours normally completed in two years (four academic semesters).

## 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 bachelors degrees in Architectural Studies and in Civil Engineering after five years of study. A suggested sequence of courses can be

obtained from your adviser or the Dean's 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. This program requires that students identify an interest early in their BSAS course of studies so that they select courses under the heading of elective in the architecture curriculum that meet the requirements of the undergraduate business curriculum and will fulfill the requirements for admission into the master of business administration program. 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 Dean's Office, or the Community and Regional Planning Department Office.

## Post-Professional Master of Architecture Degree

The post-professional master of architecture degree is a scholarly, research-based curriculum. For more information, please see the *University of Nebraska-Lincoln Graduate Bulletin*.

## Department of Community and Regional Planning

**Chair:** Rodrigo Cantarero, 302 Architecture Hall

**Professors:** Luther, Mutunayagam, Scholz

**Associate Professors:** Cantarero, S. Gaber,

Hulvershorn

**Assistant Professor:** J. Gaber

**Professors Emeritus:** Fischer, McGraw

The Department of Community and Regional Planning offers only 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 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 Department of Architecture. 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 architectural studies (BSAS) 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 Department of Community and Regional Planning.

## Interdepartmental Programs

The Department of Community and Regional Planning 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 Department of Community and Regional Planning.

## 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:  
 Department of Community and Regional Planning  
 University of Nebraska-Lincoln  
 302 Architecture Hall  
 PO Box 880105  
 Lincoln, NE 68588-0105
5. An essay responding to Departmental application form questions, submitted to the Department 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.

**120. Architectural Graphics** (3 cr) Lec 1, studio 6. Introduction to the fundamentals and systems of graphic expression. Exercises in lettering; orthographic projection; descriptive geometry; shades and shadows; perspective; and principles of construction drawing.

**140. Visual Literacy I Lecture** (ARTP, IDES, TXCD 140) (1 cr) Prereq: Admission to the College of Architecture and parallel ARCH 140L. For course description, see ARTP 140.

**140L. Visual Literacy I Lab** (ARTP, IDES, TXCD 140L) (4 cr) Prereq: Admission to the College of Architecture and parallel ARCH 140. For course description, see ARTP 140L.

**141. Visual Literacy II Lecture** (ARTP, IDES, TXCD 141) (1 cr) Prereq: ARCH 140 and 140L; parallel ARCH 141L. For course description, see ARTP 141.

**141L. Visual Literacy II Lab** (ARTP, IDES, TXCD 141L) (4 cr) Prereq: ARCH 140 and 140L; parallel ARCH 141. For course description, see ARTP 141L.

**210. Elements of Architectural Design I** (IDES 210) (3 cr) Lec 1, studio 6. Prereq: ARCH 141 and 141L, or permission. Parallel: ARCH 220.

Design issues applied to the making of architectural space and form. Acquisition and exploration of 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, or permission. 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) (2 cr) Lec 1, studio 4. Prereq: ARCH 140, 140L, 141, 141L and permission. Parallel: ARCH 210.

Introduction to the systems of orthographic projection and graphic expression including 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 1, studio 4. Prereq: ARCH 140, 140L, 141, 141L, 210, 220, and permission. 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 Application in Architectural and Interior Design I** (IDES 223) (3 cr) (UNL) Lec 1, lab 4.

Basic principles and concepts of applications of computer technology to architectural and interior design. Develops fundamental knowledge and skills to make effective use of computer technology to aid investigation in design studios.

**[ES] 240. History of Architecture** (3 cr) Lec 3. Prereq: Sophomore standing and permission. Survey of the development of architecture and its expression as an artifact of material culture from prehistory to the present.

**310. Architectural Design: Systematic Approach** (4 cr) Studio 12. Prereq: Admission to the BSAS program and parallel ARCH 330.

Fundamentals of architectural design. Introduction to problem-solving techniques and the design process. Investigation, analysis, synthesis, development, and presentation of elementary design projects from prepared programs.

**311. Architectural Design: Ecological Context** (4 cr) Studio 12. Prereq: ARCH 330, 310. Parallel: ARCH 460.

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.

**330. Elements of Building Construction** (3 cr) Lec 3. Prereq: Admission to the BSAS program and parallel ARCH 310.

Introductory study of common building systems and their components. Emphasis on the understanding of a fundamental vocabulary of construction, in both verbal and graphic terms, that can be immediately applied in undergraduate architectural design studios.

**331. Architectural Structures I** (3 cr) Rec/studio 3. Prereq: ENGM 220, 324.

Analysis and design of structural members in wood, steel, and concrete with emphasis on slabs, joists, beams, girders, and connections. Comparative building designs.

**332. Architectural Structures II** (3 cr) Rec/studio 3.

Prereq: ARCH 331.

Analysis and design of structural members in wood, steel, and concrete with emphasis on columns, walls, footings, soils, trusses, and construction. Comparative building designs.

**333. Interior Architectural Systems** (3 cr) Lec 3. Prereq: Physics.

Aspects of building design that affect human sensory response and behavior. Ability to recognize, specify, and control the characteristics of brightness, contrast ratios and movement in the field of vision; sound intensity and frequency; and thermal comfort variables, i.e., ambient air temperature, mean radiant temperature, air motion, and relative humidity.

**[IS] 340/540. Architectural History and Theory I** (3 cr) Lec 3. Prereq: For undergraduate: Admission to the BSAS 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.

**350. The Design Process** (3 cr) Lec 1, lab 4. Prereq: Admission to the BSAS program and parallel ARCH 310. Lecture/lab that emphasizes the central role of the relationship between architectural ideas and the human participant in the design process. Methods of designing, programming and evaluating are presented in the context of an overall design process. Ways to integrate relevant information regarding the client, the users, and the designer into the design process.

**360. Site Context Issues** (HORT 417) (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.

**410. Architectural Design: Tectonics** (4 cr) Studio 12. Prereq: ARCH 460, 311. 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.

**411. Architectural Design: Human Needs** (4 cr) Studio 12. Prereq: ARCH 430, 410. Parallel: ARCH 461.

Fundamentals of architectural design. Continued study of problem-solving methods and systems. Prepared programs that emphasize humanity and its behavior as the prime architectural determinant. Design concepts as an organizing device.

**417/617. Product Design** (IDES 417) (3 cr) Prereq: Junior standing or permission.

Hands-on 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.

**420. Architectural Screen Printing** (3 cr) Lec 1, lab 6. Prereq: Admission to the BSAS program; ARCH 220 and 221.

Hands-on introduction to the fundamentals of screen printing. Students introduced to the process and techniques of basic screen printing as applied to architectural exercises. Instruction will be given in the use of inks, solvents, and photo-stencil techniques as part of the screen printing process.

**423. Computer Applications in Environmental Development** (3 cr) Prereq: Admission to the BSAS 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 BSAS 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.

**432. Production Drawings I** (3 cr) Prereq: ARCH 330 and 411 or permission.

Development of production drawings for a small building: including site plan, floor plans, elevations, cross sections, wall sections, selected details, structural, mechanical, and electrical plans. Production drawings coordinated with specifications and shop drawings.

**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 BSAS 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 BSAS 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.

**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.

**456/556/856. Behavioral and Social Factors in Environmental Design** (3 cr) Prereq: Permission.

Comprehensive survey of theory, methods, research, and findings from the social and behavioral sciences as they relate to architectural design and regional and community planning. Application of principles to the development of architectural 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.

**461. Understanding Architectural Ideas** (3 cr) Lec 3. Prereq: ARCH 430, 410. Parallel: ARCH 411. Capstone course for the adjunct sequence, focusing on analytical understanding of architectural ideas as reflected by exemplary buildings and the students' own studio projects.

**462/562/862. Urban Form Typology** (3 cr) Prereq: Undergraduates by permission only. *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.

**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. Planting Design** (HORT 339) (3 cr) Lec 1, studio 4. Prereq: HORT 212; HORT 200 and 266 or ARCH 120; and permission. For course description, see HORT 339.

**468. Introduction to Landscape Construction** (HORT 341) (4 cr I) Lec 2, studio 4. Prereq: MATH 102 or MATH 106; MSYM 109 or PHYS 141; or permission. For course description, see HORT 341.

[IS] **469. Senior Landscape Design** (HORT 469) (4 cr II) Studio 8. Prereq: HORT 341 and/or permission. For course description, see HORT 469.

**481/581/881. Women in Design** (IDES 481) (3 cr) Prereq: Admission to the BSAS 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.

**488. Senior Inspection Trip** (1 cr) Prereq: Senior standing. P/N 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.

**497/597/897. Selected Topics in Architecture** (CRPL 497) (1-6 cr) Prereq: Permission. Group investigation of a topic in architecture originated by the instructor.

**498/598/898. Problems in Architecture** (1-6 cr) Prereq: Permission. Individual investigation of a topic in architecture.

**510/810. Architectural Design: Core Studio** (4 cr) Studio 12. Prereq: Graduate standing.

**511/911. Architectural Design: Environmental Issues** (4 cr) Studio 12. Prereq: ARCH 850.

**530/830. Architectural Systems Design I** (3 cr) Lec 3. Prereq: BSAS or permission.

**531/831. Architectural Structures III** (3 cr) Rec/studio 3. Prereq: ARCH 411.

**536/836. Building Equipment Integration** (3 cr) Lec 3, sem 1. Prereq: BSAS or permission.

**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.

**564/864. Urban Design I** (3 cr) Lec 3. Prereq: Permission.

**612/812. Architectural Design: Urban Issues** (4 cr) Studio 12. Prereq: ARCH 850.

**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 613/813.

**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** (1-12 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.

**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. Prereq 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/sem. 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.

**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.

**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.

**140. Visual Literacy I Lecture** (ARCH, ARTP, TXCD 140) (1 cr) Prereq: Admission to the College of Architecture and parallel IDES 140L.  
For course description, see ARTP 140.

**140L. Visual Literacy I Lab** (ARCH, ARTP, TXCD 140L) (4 cr) Prereq: Admission to the College of Architecture and parallel IDES 140.  
For course description, see ARTP 140L.

**141. Visual Literacy II Lecture** (ARCH, ARTP, TXCD 141) (1 cr) Prereq: IDES 140 and 140L; parallel IDES 141L.  
For course description, see ARTP 141.

**141L. Visual Literacy II Lab** (ARCH, ARTP, TXCD 141L) (4 cr) Prereq: IDES 140 and 140L; parallel IDES 141.  
For course description, see ARTP 141L.

**210. Elements of Architectural Design I** (ARCH 210) (3 cr) Lec 1, studio 6. Prereq: IDES 141 and 141L, or permission. Parallel: IDES 220.  
For course description, see ARCH 210.

**211. Elements of Architectural Design II** (ARCH 211) (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) (2 cr) Lec 1, studio 4. Prereq: IDES 140, 140L, 141, 141L and permission. Parallel: IDES 210.  
For course description, see ARCH 220.

**221. Graphic Communication II** (ARCH 221) (2 cr) Lec 1, studio 4. Prereq: IDES 140, 140L, 141, 141L, 210, 220, and permission. Parallel: IDES 211.  
For course description, see ARCH 221.

**223. Computer Application in Architectural and Interior Design I** (ARCH 223) (3 cr) (UNL) Lec 1, lab 2.  
For course description, see ARCH 223.

**250. Interior Design Graphics** (4 cr) (UNL, UNO) Lec 1, lab 8. Prereq: IDES 150, ARCH 230, or permission.  
Basic graphic presentation techniques for interior delineation, including one-point and two-point perspective drawing, black and white and color rendering, and computer-aided drafting.

**260. Lighting Design for Interiors** (3 cr) (UNL III)  
Prereq: IDES 250.  
Survey of technical and aesthetic considerations in development of lighting designs for residential and commercial interior applications.

**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.

**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.

**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** (3 cr) (UNL) Studio 6.  
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** (3 cr) (UNL) Studio 6.  
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.

**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.

[ES][IS] **445/845. Historic Interiors II** (3 cr) (UNL) Lec 3.  
Prereq: IDES 340.  
History and development of international interiors and furnishings including American styles from the nineteenth century to the present with emphasis on the changes produced by nineteenth- and twentieth-century technologies.

**450/850. Interior Design Studio 3** (3 cr) (UNL) Studio 6.  
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.

**451/851. Interior Design Studio 4** (3 cr) (UNL) Studio 6.  
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.

**458. The Changing Workplace** (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. Particular attention is given to factors effecting change in the contemporary workplace.

**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.

**481. Women in Design** (ARCH 481/581/881) (3 cr)  
Prereq: Admission to the BSAS program or permission.  
For course description, see ARCH 481/581/881.

**497. Selected Topics in Interior Design** (1-6 cr) Prereq: Permission.  
Group investigation of a topic in interior design originated by instructor.

**498. Problems in Interior Design** (1-6 cr) 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.

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## Dan Bernstein

“Teaching is an interesting kind of partnership. I think the faculty and the students have mutual responsibilities for each other. Faculty have the responsibility to make sure that what they are offering students is current, well-informed, appropriate for engaging students in the learning process, and appropriate for what students are likely to do. At the same time, students have the responsibility to make sure they have enough time and energy to devote to study, and an open mind for learning. There is no research on learning that shows that a student’s time on task is not the biggest predictor of learning. We need to be clear that the partnership works only when each partner is doing their share.

“I am currently using certain elements of technology to enhance student learning by guiding their experiences outside the classroom. I have a lot of web-based information that allows students to interact with the materials and find out what they need to learn outside of class. I am in class to have a conversation with students about what they have learned outside of class, something no computer can do. The bedrock of learning doesn’t take place from students listening to me; it takes place when their reading is followed by our discussion.”

*Dan Bernstein is a professor of psychology in the College of Arts and Sciences.*



# College of Arts and Sciences

**Linda R. Pratt**, Ph.D., Interim Dean and Professor of English  
**Lisa Crockett**, Ph.D., Assistant Dean and Professor of Psychology  
**Edward G. Schmidt**, Ph.D., Associate Dean and Professor of Physics and Astronomy  
**Michael Steinman**, Ph.D., Associate Dean and Professor of Political Science

## About the College

For additional information or questions, contact the Director of Advising:

Anne T. Kopera  
107 Oldfather Hall  
PO Box 880330  
Lincoln, NE 68588-0330  
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 Foster, chair; Professors Hayden-Roy, Linsley-Griffin, Raz, Starace, Thompson; Associate Dean Steinman

**Academic Distinction and Awards.** Assistant Dean White, chair; Professors Ambrosius, Chia, Hope, Ide, Magliveras

**Assessment.** Professors Carr, Ford, Garbin, Jacobson, Japp, Johnson, Osterman, Snow, Winkle; Assistant Dean White

**Curriculum.** Professor Carr, chair; Professors Krone, Mahoney, McCollough, Pardy; Assistant Dean Crockett; SAB representatives

**Faculty Instructional Development.** Professors Balasubramanian, Di Magno, Lee, Moore, Thompson, Thornton; Assistant Dean White; GSA representative; SAB representative

**Grading Appeals.** Professors Olds, Pitts, Whitt; GSA representative; SAB representatives; Dean's Office Liaison Assistant Dean White

## Affiliated Centers and Academic Initiatives

### American Mathematics Competitions Examinations Center

The Center is the national headquarters for the American Mathematics Competitions, serving as the main administrative wing for the four tests associated with the Competitions: the *American Junior High School Mathematics Examination*, the *American High School Mathematics Competition*, the *American Invitational Mathematics Examination*, and the *USA Mathematical Olympiad*. As administrator for this organization, the Center produces all the tests and supplies associated with the four exams and handles their distribution. Once the examinations have been given, the Center also assists in the scoring as well as the evaluation process. The results are then published, providing the schools involved with a valuable resource for assessing their mathematics programs. Each year, over 650,000

students from the US, Canada, and US schools abroad participate in the American Mathematics Competitions.

The University of Nebraska-Lincoln serves as the annual host site for the training of the USA International Mathematical Olympiad Team.

### 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. Research at the observatory is supported by a data reduction system in the Minnich Astronomical Computing Center in Ferguson Hall.

### 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.

### 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.

### Center for Biological Chemistry

The Center for Biological Chemistry, 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 both the UNL College of Agricultural Sciences and Natural Resources and the College of Arts and Sciences, and 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

The Center for Biotechnology, a component of the Nebraska Research Initiative, coordinates UNL's resources to build upon recent advances in biotechnology spurred by the explosion of knowledge in the areas of recombinant DNA technology, genetic engineering, and analytic technology. Its purpose is to apply these advances to the solution of biological problems having to do with agriculture, health, food, fiber, and the environment.

The Center provides a research environment comprising the combined activities of certain faculty of the College of Arts and Sciences and the Institute of Agriculture and Natural Resources. The primary focus of Center-associated faculty is on cell and molecular biology, genetics, and plant cell systems. The current main research areas of the Center are plant genetic engineering and comparative pathobiology of plant and animal diseases.

### Center for Communication and Information Science

The Center for Communication and Information Science is researching computers and communication systems and provides educational opportunities and hands-on experience to students interested in research topics overlapping the disciplines of computer science, computer engineering, electrical engineering, and mathematics. The Center activities encompass basic interdisciplinary research as well as specific efforts between researchers, industrial organizations and government agencies. Project areas include high performance computing, data communication and foundation, multi media, and computer vision. For further information see the home page, <http://ccis.unl.edu>.

### Center for Great Plains Studies

The Center for Great Plains Studies is an interdisciplinary program for all University of Nebraska campuses and is located at UNL. 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. The Frances W. Kaye Scholarship for \$500 is awarded each year to a Great Plains Studies major. The Center's various activities include publishing journals, *Great Plains Quarterly* and *Great Plains Research*, publishing *Journals of the Lewis and Clark Expedition* and *Encyclopedia of the Great Plains*, administering the Great Plains Art Collection,

sponsoring the monthly Paul A. Olson Seminars in Great Plains Studies and other outreach programs, and hosting an annual symposium that attracts scholars from all over the world. The Center also refers students and the public to its web page: <http://www.unl.edu/plains>.

### Center for Materials Research and Analysis

The mission of the Center for Materials Research and Analysis (CMRA) is to provide for the State of Nebraska and the University of Nebraska a nationally recognized center of excellence in Materials Research Science and Engineering. CMRA's goals are to perform and publish world-class research; educate students in the relevant scientific and engineering disciplines; promote interdisciplinary group and single-investigator grants to improve UNL's national research competitiveness; and to contribute to the economic development of Nebraska through industrial collaborations, spin-offs, materials analyses, and tech transfer to companies.

The Center is a multidisciplinary organization with more than sixty faculty members in seven departments in the Colleges of Arts and Sciences and Engineering and Technology. The research thrust areas of CMRA include: Nanostructured Materials and Complex Systems, Materials Research for Information Technologies, Molecular Design of Advanced Materials, Mechanics and Processing of Materials, Cluster Science and Applications, and Biomolecular Materials Science. About 84 percent of CMRA's research budget comes from external sources such as federal grants, industry, and the private sector.

In addition to its research focus, CMRA is heavily involved in education, human-resource development, and outreach. It promotes a multidisciplinary graduate education with excellent career opportunities in academia or the private sector. The Center also operates six Central Service Facilities that provide the infrastructure for high quality materials preparation and characterization. CMRA aims to draw together the critical mass of physical and human resources necessary for progress.

### Center for Science, Mathematics, and Computer Education

The Center for Science, Mathematics, and Computer Education is a partnership between the College of Arts and Sciences, Teachers College, and the Nebraska Math and Science Initiative (funded by NSF). The purpose of the Center is to support activities and encourage collaborative efforts between K-12 education, higher education, government, and business, and to improve the teaching and learning of math, science, and technology.

### Center for Water Sciences

The Center for Water Sciences is a statewide priority program focusing on water quality research related to agricultural nonpoint contamination and management practices designed to lessen this chemical impact on groundwater. The Center provides resources and promotes coordination of research by faculty in more than 11 departments in the Colleges of Arts and Sciences, Engineering and Technology and the Institute of Agriculture and Natural Resources.

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

As an interdisciplinary organization, the Center on Children, Families, and the Law works to stimulate interdepartmental and inter-collegiate 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 family and consumer sciences. The UNL Center serves as the coordinating unit for a consortium of similar centers located at SUNY-Buffalo and the Universities of Hawaii, Iowa, Michigan, Pittsburgh, and Virginia.

### Discrete and Experimental Mathematics and Mathematical Modeling

An interdisciplinary research group which brings together faculty in mathematics and statistics, computer science and engineering, chemistry, and chemical engineering to explore shared research interests in combinatorics, cryptography, coding theory, algorithmic problems in algebra, web-based mathematics and computer science education, as well as to study the application of mathematics to problems in the pure and applied sciences.

### Family Research and Policy Initiative

A strong, nationally visible family program, focusing on child, family, and policy issues. It involves UNL faculty and graduate students from psychology, sociology, political science and the Center for Children, Families, and the Law, as well as faculty from outside the College of Arts and Sciences. The initiative supports a wide range of activities related to the policy implications of such issues as single-parent and stepfamily outcomes, divorce, parent-child relations and attachment, and spousal and familial violence.

### 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 24 faculty in this interdisciplinary center teach and do research in all areas of Judaic. The Center offers an undergraduate minor in Judaic Studies. The Center's goal is to educate undergraduates, Nebraskans, and the wider Great Plains' 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.

### Human Rights and Human Diversity Initiative

A graduate level and faculty focal point for the study of the intersection of internationally recognized human rights and the reality of human diversity. A leading theme is universalism versus cultural relativism and national (and other) particularism. The initiative emphasizes transnational actors for human rights, the minority experience, women's rights, and identity formation.

### Humanities Program

The Humanities Research Program advances and coordinates research, teaching, and outreach activities in the humanities. It also coordinates special programs, including the Charles and

Linda Wilson Program for Humanities in Medicine, the Text Studies Initiative, and the Public Discourse and Human Values Initiative.

### 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 distinct minority groups in our society known as Mexican-Americans (Chicanos) or Hispanics, Native Americans (American Indians), and Black Americans (African Americans). The Institute offers minors in Native American Studies, African American Studies, and Latino Studies.

### J.D. Edwards Honors Program in Computer Science and Management

A new undergraduate and masters residential honors program created to produce top quality 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.

### Math/Science Education Initiative

The Math/Science Education Initiative coordinates and enriches the activities of numerous mathematics and science faculty, within and without the College, in their undergraduate and graduate educational mission. Its works to support research and K-16 outreach in all areas of math/science education, to create national visibility for university and college initiatives, and to promote a cooperative and unified educational community dedicated to enhancing pedagogy, curriculum, training, student research experiences, and faculty development.

### Molecular Plant Science Program

The goal of the UNL Molecular Plant Science Program, 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.

### 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.

### Nebraska International Studies Consortium

An integrated instructional and research initiative encompassing the undergraduate program in international studies, the College's socio-cultural and area studies programs, the International Human Rights and Human Diversity Initiative, and a graduate program in human rights and human diversity. The Nebraska Consortium addresses the intersection of human rights research and social science and humanities research on the underlying cultural and socio-political dynamics that give rise to human rights issues.

### Prairie Schooner

A literary quarterly in its seventy-third year of continuous publication, *Prairie Schooner* publishes fiction, poetry, essays, interviews, articles, 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 then reach a national and international audience. Its office is located at 201 Andrews Hall on the University of Nebraska-Lincoln campus.

### Public Discourse and Human Values Initiative

An initiative focusing on the character and underlying values of contemporary public discourse in politics, in the media, in institutions, and among individuals. It encompasses social-scientific research on major patterns of public discourse, journalistic analysis of news media activities, and the ethical, philosophical, and rhetorical study of the standards of evidence and the moral values appropriate to a free democracy.

### Psychological Consultation Center

The Psychological Consultation Center is a mental health clinic operated by the Department of Psychology in the College of Arts and Sciences. The Center serves University students, staff, and faculty as well as people from the community. All therapists are doctoral students supervised by PhD clinical psychologists. Services provided include assessments and therapy for psychological and emotional problems experienced by individuals, couples, families, or children. Fees are based on a sliding fee scale determined by client income and number of people supported by that income. The Center is located at 325 Burnett Hall, (402) 472-2351.

### Snow and Ice Research Group

The Snow and Ice Research Group (SIRG) was formed in 1988 to serve as an administrative home for local researchers working primarily in polar areas. Its purpose is to facilitate research and to provide administrative oversight and support. SIRG research associates are drawn from the Institute of Agriculture and Natural Resources, the Colleges of Architecture, Arts and Sciences, and Engineering and Technology

and the University of Nebraska at Omaha. SIRG offices and labs are located in the Whittier Building.

### Text Studies Initiative

An interdisciplinary research and instructional initiative that links faculty from a broad range of disciplines, chiefly in the humanities, but also in social science fields such as communication studies and science fields such as computer science, to explore how texts, broadly defined, are affected by the transfer from one medium to another or from one context to another. Studying text in the context of the burgeoning world of electronic texts is one key element of the initiative, but Text Studies also explores the dimensions and limits of textuality, as well as the relationship between form and meaning in text from both historical and theoretical perspectives.

## 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.

### Scholarships Awarded by the College

**Arts and Sciences Scholarship.** Awarded to a student with demonstrated financial need.

**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.

**Dorothy Kinyoun Scholarship.** Awarded to a full-time student.

**Kiffin Scholarship.** Awarded to a sophomore or above, graduate of a Nebraska high school, in the upper 20% of class with demonstrated financial need.

**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.

**Martina McMenamin Memorial Scholarship.** Awarded to a sophomore or above, graduate of Daniel J. Gross High School with a 3.0 GPA or better and demonstrated financial need.

**Henry and Dorothy Riekes Scholarship.**

Awarded to a sophomore or above, currently enrolled in one course which applies to the minor in Judaic Studies.

**Annis Chaiken Sorenson Award.** Awarded to a junior majoring in the humanities.**Max John and Pauline H. Stuerner 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.**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.**Scholarships Administered by the College****Barry M. Goldwater Scholarship.** The College may nominate four students, sophomores or juniors majoring in engineering, mathematics, or the natural sciences, to the Barry Goldwater Foundation.**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.**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.

**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.

You can be considered for other undergraduate scholarships by completing the University's "Application for Freshman Scholarships" and returning it to the Office of Scholarships and Financial Aid by the deadline published on the application. If you are a transfer student, you should complete an "Application for Transfer Student Scholarship" and submit it by the published deadline on the application. Applications are available through the Office of Scholarships and Financial Aid and most Nebraska high school and community college advising offices. (NOTE: Applying for admission is a criterion for consideration.)

**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 (within the top five percent of the graduating classes in the preceding 12-month period) 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 (within the top five percent of the graduating classes in the preceding 12-month period), or 2) by achieving excellent scholastic standing (within the top 10 percent of the graduating classes in the preceding 12-month period) 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 (within the top 10 percent of the graduating classes in the preceding 12-month period), or 2) by achieving high scholastic standing and by receiving a recommendation for distinction based on a thesis or comparable creative effort and a comprehensive examination.

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 before their senior year by consulting 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 proposal is to be filed by each student in the semester prior to graduation. This thesis proposal must be approved by two faculty co-advisers who have agreed to guide the student's work, and by a faculty group designated by the department in question. After approval by the co-advisers, the student will submit the completed thesis to the same faculty group for final evaluation. This group will also be responsible for overseeing the quality of the comprehensive examination required for all students submitting a thesis.

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 prospectus, an evaluation by the co-advisers, and a final evaluation by the faculty group. The forms for making these evaluations are available in 107 or 1223 Oldfather Hall. Students are urged to contact the department in which they are writing a thesis for department deadlines.

Students who hope to be recommended for distinction on the basis of a thesis and comprehensive examination alone should have grade averages above 3.5.

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 P/N, 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

Beth Augustine, *President*; Laura Grother, *Vice President*; Justin Kauk, *Treasurer*; Sarah Kippenbrock, *Secretary*; Justin Cramer, *External Relations*; Kate Brown, *Internal Relations*; Andy Faltin, *New Member Chair*; Mindy Lacey, *TA Award Chair*.

For a current list of Student Advisory Board members contact the Arts and Sciences Advising Center, 107 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 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 cocurricular 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 Affairs, 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 worldwide and Nebraska Semester Abroad. International Affairs (see "International Affairs" on page 36) 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 5). 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 5 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.

## 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 correspondence from the UNL Division of Continuing Studies or by completing MATH 85C and 86C at the University. 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 by correspondence from the UNL Division of Continuing Studies (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 Programs" on page 195.

## 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 D grades from other schools. The 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 the general education 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 (P/N) is designed for your use by seeking to expand your intellectual horizons by taking courses in areas where you may have had minimal preparation.

- Neither the "P" nor the "N" grade contribute to your GPA.
- "P" is interpreted to mean "C" or above.
- A change to or from a "Pass/No Pass" may be made until mid-term (1/2 of the course).
- The "Pass/No Pass" or grade registration cannot conflict with the professor's, department's college, or University policy governing the grading option.
- Changing to or from "Pass/No Pass" requires using the NRoll system to change the grading option or filing a Drop/Add form with the Registration Office, Service Counter 17A, 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 a professor's, department's college, or University policy.

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.

- For undergraduates, the University maximum of 24 "Pass" credit hours and/or college and department limits will apply. These limits do not include courses offered on a "Pass/No Pass" basis only. Consult your adviser or the department section of this Bulletin for restrictions on the number of "Pass" hours you can apply toward your degree.
- The "Pass/No Pass" grading option cannot be used for the removal of "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:

- Pass/No Pass hours can count toward fulfillment of general (both ES and IS courses) education requirements up to the 24-hour maximum.
- Each department may grant up to 6 hours credit taken on a P/N basis in the major, and up to 6 hours of P/N basis in the Plan A minor or each of two Plan B minors.
- Freshmen and sophomores may enroll for no more than 6 hours of P/N work per semester.
- Departments may specify that certain courses of theirs can be taken only on a P/N basis.
- 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 is more restrictive than the above University regulation (#6).

Individual departments vary in their policies regarding P/N hours as applied to the major and minor. Consult the individual departmental listings for these policies. 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:

- Consult with the department chair.
- Obtain a Credit by Examination Form at the Records Office, 107C Canfield Administration Building, 472-3649. Current enrollment in the University must also be verified.
- 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.
- 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, 107B 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 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 by Correspondence

There are many opportunities to earn college credit through the University of Nebraska-Lincoln Division of Continuing Studies. Majors in the College of Arts and Sciences may apply a maximum of 30 hours of UNL correspondence courses and summer reading courses toward the total number of hours required for the degree.

**NOTE:** No course offered through correspondence or summer reading, those with an "X" designation, may be applied to the Integrative Studies requirement.

For further information, contact:

Division of Continuing Studies  
University of Nebraska-Lincoln  
162 Clifford Hardin Nebraska Center for  
Continuing Education  
Lincoln, NE 68583-0900  
(402) 472-2175

## 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 Assistant Dean Laura White, 1223 Oldfather Hall.

with departments from which Arts and Sciences applies credit for graduation. The College does not accept transfer courses equivalent to JGEN 200.)

- Any introduction computer course training in DOS, word processing, spread-sheets, date base management, or other business software packages (CSCE 137 or MNGT 198D 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 correspondence and summer reading courses (NOTE: No courses offered through correspondence or summer reading, those with an "X" designation, may be applied to the Integrative Studies requirement.)
- Maximum 15 hours of D grades are transferable from colleges outside UNL. The D grades cannot apply to majors or minors. All 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  
First Aid (HLTH 170 at UNL)  
Orientation (for example at UNL: PSYC 100; UFND 101, 102, 103; EDPS 150; BIOS 158, 160; BIOC 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 & Sciences.)
- Any restrictions noted specifically by departments. An example would be credit not permitted for both MATH 104 and 106. See course descriptions in the Bulletin and the Schedule of Classes.
- 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 general education requirements for a degree, the requirements for a major, and the requirements for a minor or minors if required by the major.

## Restrictions on D Grades

The College will accept no more than 15 semester hours of "D" grades from other schools except for UNO and UNK. No transfer "D" grades can be applied toward requirements in a major or a minor. No UNL "D" grades can be applied toward requirements in a major. UNL "D" grades can be applied toward requirements in a minor.

## Residency Requirement and Correspondence Courses

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 at UNL. This means that the last year of the student's work must be spent 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 33). Correspondence and summer reading courses do not count toward residence. However, 30 semester hours earned through correspondence courses and summer reading 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 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.

## 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. A minimum of 9 hours must be completed in the major at UNL regardless of the number of hours transferred. The student must complete all degree requirements for the arts and sciences degree.

## Nature and Objectives of General Education

The faculty of the College of Arts and Sciences has adopted the following statements on the nature and objectives of General Education. These statements provide the rationale for the requirements that follow.

1. **General Education requirements** are designed to further the purposes of general liberal education by encouraging study in several different areas and providing some common undergraduate experience for all students. A liberal education, including the general education requirements, major requirements, and electives, should:
  - a. equip students with modes of thought and methods of inquiry that will help them gain access to unfamiliar bodies of knowledge;
  - b. enable students to integrate knowledge from different disciplines and areas;
  - c. encourage students to consider the ethical and moral implications of knowledge they acquire;
  - d. help students discover, develop, and appreciate their own creative potential;
  - e. help students understand and appreciate their own cultural heritage;
  - f. cultivate in students a pluralistic outlook by helping them to acquire a knowledge of national and ethnic cultures other than their own;

- g. promote an appreciation of the nature, importance, and role of research in the creation of new and the reappraisal of old knowledge;
- h. foster new interests, develop intellectual curiosity, and stimulate a love of learning; and
- i. encourage students to engage in critical self-examination as well as thoughtful and active participation in society.

2. In seeking to accomplish the above, students should develop the following intellectual abilities:
  - a. to reason critically,
  - b. to analyze objectively,
  - c. to think creatively,
  - d. to perceive assumptions,
  - e. to make judgments on the basis of thoughtfully considered values,
  - f. to construct arguments and use evidence,
  - g. to write and speak effectively, and
  - h. to listen and observe perceptively.
3. Students should also obtain a breadth of view and depth of perspective through studies in the following fundamental areas of knowledge:
  - a. the aesthetic and intellectual experience of literature and the arts;
  - b. the development and diversity of human culture throughout history;
  - c. the behavior of human beings and the workings of their social, economic, and political institutions; and
  - d. the nature of the physical and biological world.

## General Education Requirements

The general education requirements for students in the College of Arts and Sciences consists of four components:

- Information Discovery and Retrieval,
- Essential Studies,
- Integrative Studies, and
- Co-Curricular Experience.

For general information on these components, see "Comprehensive Education Program" on page 13. The College requirements are identical to the UNL Comprehensive Education Program requirements for Information Discovery and Retrieval, Integrative Studies, and Co-Curricular Experience. For Essential Studies, the College requirements are somewhat more stringent than the UNL requirements; in addition, they differ slightly for the BA and BS degrees. See below.

## 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 UNL Comprehensive Education requirements for Information Discovery and Retrieval and Integrative Studies, the Essential Studies requirements for the BA degree, the requirements for a major, and the requirements for a minor or minors if required by the major.

## Essential Studies Requirements for the Bachelor of Arts Degree

- A. Communication** (6 hrs)
- B. Mathematics and Statistics** (3 hrs)
- C. Human Behavior, Culture and Social Organization** (9 hrs). Students must take at least 3 hours in each of two departments.
- D. Science and Technology** (10 hrs). Students must take three semester courses, at least 3 credit hours each, or the equivalent, and 1 credit hour of laboratory work. Courses must be taken from at least two different departments.
- E. Historical Studies** (6 hrs). Students must take one course from sub-area 1, History of Civilization; the additional 3 hours may be taken from sub-area 1 or 2.
- F. Humanities** (3 hrs). An additional 6 hours must be taken from either Area F or G for a total of 12 hours in the humanities and arts.
- G. Arts** (3 hrs). An additional 6 hours must be taken from either Area F or G for a total of 12 hours in the humanities and arts.
- H. Ethnicity and Gender** (3 hrs). Any course completed for Area H may also count toward one other ES requirement, provided the course is on that list also, and provided that more than one course is completed in that area.

**NOTE: In fulfilling requirements in Areas C, E, F, G, and H, no more than 9 hours may be taken from any one department.**

- I. Languages-Classical and Modern** (0-16 hrs). Fulfilled by the completion of a 16-hour sequence of courses in a single foreign language in either the Department of Classics or the Department of Modern Languages and Literatures: 10 hours at the 100 level and 6 hours at the 200 level. (GREK 101, 102, and two 300-level courses in Greek; LATN 101, 102, and two 200- or 300-level courses in Latin.) Instruction is currently available in Chinese, Czech, French, German, Greek, Italian, Japanese, Latin, Portuguese, Russian, and Spanish.

**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 language 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 Arts and Sciences Advising Center, 107 Oldfather, for this exemption.

Students not fulfilling the entrance requirement in languages (two units of the same language in high school) will need 130 (instead of 125) hours for graduation.

## 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.

### 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 the general education requirements, a student must complete 60 semester hours in mathematics and natural sciences, including at least one course from Area B and one from Area D and including at least 1 credit hour of laboratory work in Area D of the science and technology requirement of the BA degree, either as part of a course or separately. Any mathematics or statistics course listed in the bachelor of arts Area B or a mathematics or statistics course numbered 106 or above (except 200 and 201) count toward this base. Physical geography 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.

## Essential Studies Requirements for the Bachelor of Science Degree

- A. Communication** (6 hrs)
- B. Mathematics and Statistics** (3 hrs). Included in the scientific base.
- C. Human Behavior, Culture and Social Organization** (6 hrs min). Students must take at least 3 hours in each of two departments.
- D. Science and Technology** (4 hrs, including 1 hr of lab). Included in the scientific base.
- E. Historical Studies** (3 hrs min from sub-area 1: History of Civilization). Additional hours may be completed from either sub-area 1 or 2.
- F. Humanities** (3 hrs min)
- G. Arts** (3 hrs min)

**NOTE: A total of 21 hours must be completed in Areas C, E, F, and G.**

**H. Ethnicity and Gender** (3 hrs). Any course completed for Area H may also count toward one other ES requirement in Areas C, E, F or G, provided the course is on that list also, and provided that more than one course is completed beyond the minimum required in that area.

**NOTE: In fulfilling requirements in Areas C, E, F, G, and H, no more than 9 hours may be taken from any one department.**

- I. Languages-Classical and Modern** (0-16 hrs). Please refer to Area I for the bachelor of arts degree for detailed explanation of the requirement.

## Comparison of Essential Studies Requirements for the BA and the BS Degrees

Lists of the specific courses which fulfill these requirements are found in "College of Arts and Sciences Approved Essential Studies Courses" on page 125. Only courses from the Arts and Sciences Essential Studies Requirement lists in the bulletin may apply to the Arts and Sciences ES Requirements.

Area	B.A.	B.S.
A-Communication	6 hrs	6 hrs
B-Mathematics & Statistics	3 hrs	*3 hrs
C-Human Behavior, Culture, & Social Organization	9 hrs	**6 hrs minimum
D-Science & Technology	10 hrs	*3 hrs
E-Historical Studies	6 hrs	**3 hrs minimum
F-Humanities	***3 hrs minimum	**3 hrs minimum
G-Arts	***3 hrs minimum	**3 hrs minimum
H-Ethnicity & Gender	3 hrs	3 hrs
I-Languages	16 hrs or equivalent	16 hrs or equivalent

\* BS students must also complete the Scientific Base - 60 hours in science and mathematics. The Scientific Base includes Areas B and D.

\*\* BS candidates must complete a total of 21 hours in Areas C, E, F, and G.

\*\*\* BA candidates must complete 6 additional hours in Areas F and G.

## College of Arts and Sciences Approved Essential Studies Courses

The courses listed as fulfilling Essential Studies [ES] requirements have been reviewed by the faculty and have been selected because they contribute substantially to the objectives of a general liberal education. The courses also are intended to take into account the background

and needs of nonmajors; to be broad in perspective, rather than narrow and technical; to attempt to show the relationship of the subject matter to other areas of knowledge. Courses taken to meet college ES requirements **must** be selected from the lists that follow. Essential Studies courses that also meet Integrative Studies requirements are listed in **bold**.

Even though a course may appear on more than one Essential Studies list, a student may use a course in only ONE Essential Studies area. The ONLY exception is Area H: Ethnicity and Gender. Any course completed for Area H: Ethnicity and Gender may also count toward one other Essential Studies requirement, provided the course is on that list also, and provided that more than one course is completed in that area, for the BA or provided that one course is completed beyond the minimum required in that area for the BS.

#### A. Communication

The communication requirement is intended to enable students to improve their skill in written communication through study and practice in order to be better able to participate actively in the intellectual life of the University and in the larger community beyond.

**ENGL 101 (101H). Composition & Literature I (3 cr)**

**ENGL 102 (102H). Composition & Literature II (3 cr)**

**ENGL 150 (150H). Composition I (3 cr)**

**ENGL 151 (151H). Composition II (3 cr)**

ENGL 188. ESL/Advanced Communication Skills (3 cr)

**ENGL 254. Composition (3 cr)**

Students in the College of Arts and Sciences must complete the communication requirement by the first semester of their junior year (65 credit hours or more). Transfer students and others who have not met the 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.) In addition to the courses above, the College encourages students to take elective courses which will further enhance their oral communication. See your adviser to determine which course or courses may be best for you. The following courses are recommended: COMM 109, 209, 212, or 311.

#### B. Mathematics and Statistics

**NOTE: Any course in the Department of Mathematics and Statistics for which MATH 208 is a prerequisite may be substituted for MATH 208 as meeting the ES requirement.**

The mathematics and statistics requirement is intended to impart knowledge of essential mathematical concepts and of the nature of mathematical reasoning and language, or, when appropriate, of methods of statistical analysis.

**BIOM 201. Intro to Biometry (3 cr)**

CSCE 235. Intro to Discrete Structures (3 cr)

MATH 104. Calculus for Managerial & Social Sciences (3 cr)

**MATH 106 (106H). Analytic Geometry & Calculus I (5 cr)**

**MATH 107 (107H). Analytic Geometry & Calculus II (5 cr)**

**MATH 189H. University Honors Seminar (3 cr)**

**MATH 203. Contemporary Mathematics (3 cr)**  
**MATH 208 (208H). Analytic Geometry & Calculus III (4 cr)**  
**MATH 394. Topics in Contemporary Mathematics (3 cr)**  
**PHIL 211. Intro to Modern Logic (3 cr)**  
**STAT 180. Elements of Statistics (3 cr)**

#### C. Human Behavior, Culture and Social Organization

The human behavior, culture and social organization requirement is intended to impart 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 and the natural environment.

AECN 141. Intro to the Economics of Agriculture (3 cr)

AECN 276. Rural Sociology (SOCI 241) (3 cr)

**AECN 346. World Food Economics (3 cr)**

AECN 376. Rural Community Economics (3 cr)

**AGRI 292. Intro to Global Agriculture & Natural Resources Issues (3 cr)**

ANTH 107. Individual & Society (3 cr)

ANTH 110. Intro to Anthropology (3 cr)

ANTH 130. Anthropology of the Great Plains (3 cr)

**ANTH 212. Intro to Cultural Anthropology (ETHN 212) (3 cr)**

**ANTH 252. Archaeology of World Civilizations (CLAS 252) (3 cr)**

ANTH 261. Conflict & Conflict Resolution (3 cr)

ANTH 351. People & Cultures of Native North America (ETHN 351) (3 cr)

ANTH 352. Intro to Plains Ethnology (ETHN 352) (3 cr)

ANTH 353. Anthropology of War (3 cr)

ANTH 362. Peoples & Cultures of Africa (3 cr)

ANTH 366. Peoples & Cultures of East Asia (3 cr)

**BIOS 203. Bioethics (3 cr)**

BRDC 226. Intro to Broadcasting (COMM 226) (3 cr)

**CLAS 252. Archaeology of World Civilizations (ANTH 252) (3 cr)**

**COMM 130. Communication Strategies in Society (3 cr)**

**COMM 189H. University Honors Seminar (3 cr)**

COMM 200. Intro to Communication Studies (3 cr)

COMM 210. Small Group Problem Solving (3 cr)

**COMM 211. Intercultural Communication (ETHN 211) (3 cr)**

COMM 226. Intro to Broadcasting (BRDC 226) (3 cr)

**COMM 280. Communication & Popular Culture (3 cr)**

COMM 283. Interpersonal Communication (3 cr)

COMM 300. Nonverbal Communication (3 cr)

**COMM 354. Health Communication (3 cr)**

**COMM 370. Family Communication (3 cr)**

**COMM 371. Communication in Negotiation & Conflict Resolution (3 cr)**

COMM 375. Theories of Persuasion (3 cr)

**COMM 380. Gender & Communication (3 cr)**

**CURR 330. Multicultural Education (ETHN 330) (3 cr)**

ECON 210. Intro to Economics (3 cr)

ECON 211. Principles of Macroeconomics (3 cr)

ECON 212. Principles of Microeconomics (3 cr)

ENGL 220. Intro to Linguistic Principles (3 cr)

ENGL 322B. Linguistics & Society (3 cr)

**ETHN 189H. University Honors Seminar (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 310. Psychology of Immigration (PSYC 310) (3 cr)

**ETHN 330. Multicultural Education (CURR 330) (3 cr)**

ETHN 351. People & Cultures of Native North America (ANTH 351) (3 cr)

ETHN 352. Intro to Plains Ethnology (ANTH 352) (3 cr)

**ETHN 448. Family Diversity (SOCI 448) (3 cr)**

FACS 160 (160H). Human Development & the Family (3 cr)

**GEOG 120. Introductory Economic Geography (3 cr)**

**GEOG 140. Introductory Human Geography (3 cr)**

**GEOG 181. Quality of the Environment (3 cr)**

**GEOG 242. The Geographical Background to World Affairs (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 361. Urban Geography (3 cr)**

GEOG 372. European Landscapes & Cultures (3 cr)

GEOG 374. Geography of Russia (3 cr)

**GEOG 375. Geography of Asia (3 cr)**

**GEOG 378. Geography of Latin America (3 cr)**

**HHPT 279. Psychosocial Aspects of Physical Activity & Sport (3 cr)**

HIST 343. American Urban & Social History I (3 cr)

HIST 344. American Urban & Social History II (3 cr)

HIST 346. North American Environmental History (3 cr)

**JGEN 123. The Media Today (3 cr)**

MNGT 360. Managing Behavior Organizations (3 cr)

**MNGT 360H. Honors: Managing Behavior in Organizations (3 cr)**

**MNGT 465. Organizational Theory & Behavior (3 cr)**

NRES 323. Natural Resources Policy (3 cr)

**NUTR 253. Cultural Aspects of Food & Nutrition (3 cr)**

**PHIL 216. Intro to Psychology & Philosophy (PSYC 216) (3 cr)**

POLS 100. Power and Politics in America (3 cr)

POLS 104. Comparative Politics (3 cr)

POLS 160. International Relations (3 cr)

**POLS 189H. University Honors Seminar (3 cr)**

POLS 210. Bureaucracy & the American Political System (3 cr)

POLS 230. Elections, Political Parties & Special Interests (3 cr)

**POLS 232. Public Issues in America (3 cr)**

**POLS 238. Blacks & the American Political System (ETHN 238) (3 cr)**

POLS 260. Problems in International Relations (3 cr)

POLS 261. Conflict & Conflict Resolution (3 cr)

POLS 271. West European Politics (3 cr)

**POLS 272. Non-Western Politics (3 cr)**

**POLS 274. Developmental Politics in East Asia (3 cr)**

POLS 275. Post-Communist Politics (3 cr)

POLS 277. Latin American Politics (3 cr)

**POLS 325. Legislative Process (3 cr)**

POLS 334. Polls, Politics & Public Opinion (3 cr)

POLS 345. Courts, Judges & Lawyers (3 cr)

POLS 371. Politics of the European Union (3 cr)

POLS 372. Russian Politics (3 cr)

PSYC 181 (181H). Intro to Psychology (3 cr)

**PSYC 216. Intro to Psychology & Philosophy (PHIL 216) (3 cr)**

PSYC 261. Conflict & Conflict Resolution (3 cr)

**PSYC 263. Intro to Cognitive Processes (3 cr)**

**PSYC 268. Learning & Motivation (3 cr)**

PSYC 270. Evolution, Behavior & Society (3 cr)

PSYC 287. The Psychology of Personality (3 cr)

**PSYC 288. The Psychology of Social Behavior (3 cr)**

- PSYC 289. Developmental Psychology (3 cr)  
 PSYC 310. Psychology of Immigration (3 cr) (ETHN 310)  
 SOCI 101. Intro to Sociology (3 cr)  
**SOCI 182. Alpha Learning Community Freshman Seminar (3 cr)**  
**SOCI 183. Alpha Learning Community Freshman Seminar (3 cr)**  
**SOCI 189H. University Honors Seminar (3 cr)**  
**SOCI 200. Women in Contemporary Society (3 cr)**  
 SOCI 201. Social Problems (3 cr)  
 SOCI 209. Sociology of Crime (3 cr)  
**SOCI 210. Drugs & Society (3 cr)**  
**SOCI 217. Nationality & Race Relations (ETHN 217) (3 cr)**  
 SOCI 218. Chicanos in American Society (ETHN 218) (3 cr)  
 SOCI 225. Marriage & the Family (3 cr)  
 SOCI 241. Rural Sociology (AECN 276) (3 cr)  
 SOCI 242. Urban Sociology (3 cr)  
 SOCI 261. Conflict Resolution (3 cr)  
**SOCI 320. Sociology of Sport (3 cr)**  
**SOCI 444. Social Demography (3 cr)**  
**SOCI 448. Family Diversity (ETHN 448) (3 cr)**  
**SOCI 460. Education & Society (3 cr)**  
**SOCI 496. Special Topics in Crime, Deviance, & Social Control (3 cr)**  
**TXCD 123 (123H). Clothing & Human Behavior (3 cr)**  
**WMNS 189H. University Honors Seminar (3 cr)**

**D. Science and Technology (10 hours)**

The science and technology requirement is intended to impart 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. The emphasis in these courses will be on the results and methods of contemporary science and technology.

- AGEN 112. Intro to Problem Solving in Agriculture & Biological Systems Engineering (BSEN 112) (3 cr)  
 AGEN 118. Fundamentals of Design for Agricultural and Biological Systems Engineering (BSEN 118) (3 cr)  
 AGRO 131. Plant Science (4 cr)  
 AGRO 153. Soil Resources (SOIL 153) (4 cr)  
**ANTH 242. Intro to Physical Anthropology (3 cr)**  
 ASCI 442. Endocrinology (BIOS 442) (3 cr)  
 ASTR 103 (103H). Descriptive Astronomy (3 cr)  
 ASTR 104. Introductory Observational Astronomy (3 cr)  
 ASTR 113. Selected Topics in Astronomy (3 cr)  
 ASTR 204. Introductory Astronomy & Astrophysics (4 cr)  
 BIOS 101. General Biology (3 cr)  
 BIOS 101L. General Biology Lab (1 cr)  
**BIOS 109. General Botany (4 cr)**  
 BIOS 112. Intro to Zoology (4 cr)  
 BIOS 115. Insect Biology (ENTO 115) (2 cr)  
 BIOS 116. Insect Identification (ENTO 116) (1 cr)  
*(Both BIOS 115 and BIOS 116 must be taken for ES credit.)*  
 BIOS 213. Human Physiology (4 cr)  
 BIOS 213L. Human Physiology Lab (1 cr)  
**BIOS 230. Ecology of Great Plains (3 cr)**  
 BIOS 301. General Genetics (4 cr)  
**BIOS 369. Intro to Plant Pathology (PLPT 369) (3 cr)**  
 BIOS 373. Biopsychology (PSYC 373) (4 cr)  
 BIOS 442. Endocrinology (ASCI 442) (3 cr)  
 BSEN 112. Intro to Problem Solving in Agriculture & Biological Systems Engineering (AGEN 112) (3 cr)  
 BSEN 118. Fundamentals of Design for Agricultural and Biological Systems Engineering (AGEN 118) (3 cr)

**CHEM 105\*\*. Chemistry & the Citizen I (4 cr)**

CHEM 106\*\*. Chemistry & the Citizen II (4 cr)

**CHEM 109\*\*. General Chemistry (4 cr)**

CHEM 110. General Chemistry II (4 cr)

**CHEM 111\*\*. Chemistry for Engineering & Technology (4 cr)****CHEM 113\*\*. Fundamental Chemistry I (4 cr)**

CHEM 114. Fundamental Chemistry II (3 cr)

**CHEM 131\*\*. The Science of Food (FDST/NUTR 131) (3 cr)**

CSCE 101. Fundamentals of Computing (3 cr)

**CSCE 101L. Fundamentals of Computing Lab (3 cr)**

CSCE 155 (155H). Intro to Computer Science I (3 cr)

CSCE 156 (156H). Intro to Computer Science II (3 cr)

**CSCE 230 (230H). Computer Organization (3 cr)**

ELEC 121. Intro to Electrical Engineering I (3 cr)

ELEC 122. Intro to Electrical Engineering II (3 cr)

ELEC 211. Elements of Electrical Engineering (3 cr)

ENGM 220. Statics (3 cr)

ENGM 223. Engineering Statics (3 cr)

ENTO 115. Insect Biology (BIOS 115) (2 cr)

ENTO 116. Insect Identification (BIOS 116) (1 cr)

*(Both ENTO 115 and 116 must be taken for ES credit.)*

**FDST 131\*\*. The Science of Food (CHEM/NUTR 131) (3 cr)**

GEOG 150. Physical Geography (3 cr)

GEOG 152. Physical Geography Lab (1 cr)

**GEOG 155. Elements of Physical Geography (4 cr)**

GEOG 251. Meteorology Lab (METR 251) (1 cr)

GEOG 252. Meteorology (METR 252) (3 cr)

GEOG 353. Applied Climatology (METR 353) (3 cr)

GEOL 100. Intro to Geology (3 cr)

GEOL 101. Physical Geology (3 cr)

GEOL 102. Physical Geology Lab (1 cr)

GEOL 103\* (103H). Historical Geology (3 cr)

GEOL 105\*. Life of the Past (3 cr)

GEOL 106. Environmental Geology (3 cr)

GEOL 109. Oceanography (3 cr)

**GEOL 305. Geology & Resources of the Middle East (3 cr)****METR 200. Weather & Climate (3 cr)**

METR 251. Meteorology Lab (GEOG 251) (1 cr)

METR 252. Meteorology (GEOG 252) (3 cr)

**METR 351. Basic & Applied Climatology (3 cr)**

METR 353. Applied Climatology (GEOG 353) (3 cr)

MSYM 109\*\*\*. Physical Principles in Agriculture (4 cr)

NRES 211. Wildlife Biology & Conservation (3 cr)

NUTR 131\*\*. The Science of Food (CHEM/FDST 131) (3 cr)

**NUTR 151. Intro to Nutrition (3 cr)**

PHYS 115. Descriptive Physics (3 cr)

PHYS 121. Energy in Perspective (3 cr)

PHYS 141 (141H). Elementary General Physics (5 cr)

PHYS 142 (142H). Elementary General Physics (5 cr)

PHYS 151\*\*\*. Elements of Physics (4 cr)

PHYS 211. General Physics (4 cr)

**PHYS 211H. General Physics (4 cr)**

PHYS 212. General Physics (4 cr)

**PHYS 212H. General Physics (4 cr)**

PHYS 220. Classical Physics Lab (1 cr)

PHYS 222. Physics Lab (1 cr)

PHYS 261. Liberal Arts Physics (3 cr)

**PHYS 361. Concepts of Modern Physics (3 cr)**

PHYS 374. Fundamentals of Relativity (3 cr)

**PLPT 369. Intro to Plant Pathology (BIOS 369) (3 cr)**

PSYC 373. Biopsychology (BIOS 373) (4 cr)

**SCIE 185 (185H). Science & the Modern World (3 cr)**

SOIL 153. Soil Resources (AGRO 153) (4 cr)

\* Students may not receive credit for both GEOL 103 and 105.

\*\* Credit may be earned in only one: CHEM 105 and/or 106, 109, 111, 113, 131, or 195.

\*\*\* Students may not receive credit for both MSYM 109 and PHYS 151.

**E. Historical Studies**

The historical studies requirement is intended to impart knowledge of the way in which history may be used to interpret the development of peoples, nations or cultures.

**1. History of Civilization Courses**

*Includes non-western as well as western courses that provide comprehensive coverage of all aspects of historical studies, including social, cultural, political and economic, over an extensive geographic area and an extended period of time.*

**ANTH 232. Intro to Prehistory (3 cr)****CLAS 205. Intro to the Hebrew Bible/Old Testament (JUDS/RELG 205) (3 cr)**

CLAS 209. Ancient Civilization of the Middle East to 500 BCE (HIST 209) (3 cr)

ETHN 150. African Culture & Civilization (HIST 150) (3 cr)

ETHN 171. Latin American Culture & Civilization (HIST 171) (3 cr)

HIST 100. Western Civilization to 1715 (3 cr)

**HIST 100H. Honors: Western Civilization to 1715 (3 cr)**

HIST 101. Western Civilization Since 1715 (3 cr)

**HIST 101H. Honors: Western Civilization Since 1715 (3 cr)****HIST 105. American Ways (POLS 105) (3 cr)****HIST 120. World History (3 cr)**

HIST 150. African Culture & Civilization (ETHN 150) (3 cr)

HIST 171. Latin American Culture & Civilization (ETHN 171) (3 cr)

HIST 181. Intro to East Asian Civilization (POLS 171) (3 cr)

HIST 201. American History to 1877 (3 cr)

**HIST 201H. Honors: American History to 1877 (3 cr)**

HIST 202. American History after 1877 (3 cr)

**HIST 202H. Honors: American History after 1877 (3 cr)**

HIST 209. Ancient Civilization of the Middle East to 500 BCE (CLAS 209) (3 cr)

HIST 210. Ancient Greece & Rome 500 BC-335 AD (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 218. History of Islam (3 cr)

HIST 219. Intro to Jewish History (3 cr)

HIST 220. History of Christianity (3 cr)

HIST 223. Spain & the Spanish Heritage (3 cr)

HIST 225. Women 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 Nineteenth & Twentieth Centuries (3 cr)

HIST 271. The Latin American Colonies (3 cr)

HIST 272. The Latin American Republics (3 cr)

HIST 282. Modern East Asia (3 cr)

**JUDS 205. Intro to the Hebrew Bible/Old Testament (CLAS/RELG 205) (3 cr)****POLS 105. American Ways (HIST 105) (3 cr)**

POLS 108. Intro to Political Ideas (3 cr)

POLS 171. Intro to East Asian Civilization (HIST 171) (3 cr)

**RELG 205. Intro to the Hebrew Bible/Old Testament (CLAS/JUDS 205) (3 cr)**

## 2. Additional Courses

*Includes courses that cover special topics or particular aspects of historical studies, a limited geographic area, or a shorter period of time.*

### ANTH 252. Archaeology of World Civilizations (CLAS 252) (3 cr)

ANTH 439. Archaeology of Preindustrial Civilization (3 cr)

ARCH 240. History of Architecture (3 cr)

### CLAS 182. Alpha Learning Community Freshman Seminar (3 cr)

### CLAS 183. Alpha Learning Community Freshman Seminar (3 cr)

### CLAS 206G. Ways of Western Religion (RELG 206) (3 cr)

CLAS 233. Science in the Classical World (3 cr)

### CLAS 252. Archaeology of World Civilizations (ANTH 252) (3 cr)

CLAS 307. Early Christianity (HIST 307) (3 cr)

CLAS 308. History of Comparative Religion (HIST/RELG 308) (3 cr)

CLAS 331. Ancient Israel (HIST/JUDS 331) (3 cr)

### COMM 220. Intro to the Study of Public Discourse (3 cr)

ETHN 241. Native American History (HIST 241) (3 cr)

ETHN 306. African American History, 1619-1930 (HIST 306) (3 cr)

ETHN 356. Race & Ethnicity in the American West (HIST 356) (3 cr)

ETHN 357. The History & Culture of the Mexican-American (HIST 357) (3 cr)

ETHN 370. The Making of Colonial Mexico (HIST 370) (3 cr)

ETHN 371. The Shaping of Modern Mexico (HIST 371) (3 cr)

### ETHN 485. Africa Since 1800 (HIST 485) (3 cr)

### FREN 321. French Civilization I (3 cr)

### FREN 322. French Civilization II (3 cr)

GEOG 334. Historical Geography of the Great Plains (3 cr)

### GERM 321. German Civilization I (3 cr)

### GERM 322. German Civilization II (3 cr)

### HIST 189H. University Honors Seminar (3 cr)

HIST 217. Israel: The Holy Land (JUDS/RELG 217) (3 cr)

HIST 221. Science in History (3 cr)

HIST 222. History of Sport (3 cr)

HIST 241. Native American History (ETHN 241) (3 cr)

HIST 306. African American History, 1619-1930 (ETHN 306) (3 cr)

HIST 307. Early Christianity (CLAS 307) (3 cr)

HIST 308. History of Comparative Religion (CLAS/RELG 308) (3 cr)

HIST 329. Women in European History (WMNS 329) (3 cr)

HIST 331. Ancient Israel (CLAS/JUDS 331) (3 cr)

HIST 332. Jews in the Middle Ages (JUDS/RELG 332) (3 cr)

HIST 333. Jews in the Modern World (JUDS 333) (3 cr)

HIST 339. The Holocaust (3 cr)

HIST 343. American Urban & Social History I (3 cr)

HIST 344. American Urban & Social History II (3 cr)

HIST 346. North American Environmental History (3 cr)

HIST 349. Ideas in America to the Civil War (3 cr)

HIST 350. Ideas in America Since the Civil War (3 cr)

HIST 356. Race & Ethnicity in the American West (ETHN 356) (3 cr)

HIST 357. The History & Culture of the Mexican-American (ETHN 357) (3 cr)

HIST 358. The History & Culture of the American Indian (3 cr)

HIST 370. The Making of Colonial Mexico (ETHN 370) (3 cr)

HIST 371. The Shaping of Modern Mexico (ETHN 371) (3 cr)

HIST 372. Revolutions in Twentieth-Century Latin America (3 cr)

HIST 381. History of Premodern Japan (3 cr)

HIST 382. History of Modern Japan (3 cr)

HIST 383. History of Premodern China (3 cr)

HIST 384. History of Modern China (3 cr)

### HIST 485. Africa Since 1800 (ETHN 485) (3 cr)

HIST 486. History of South Africa (3 cr)

JUDS 217. Israel: The Holy Land (HIST/RELG 217) (3 cr)

JUDS 331. Ancient Israel (CLAS/HIST 331) (3 cr)

JUDS 332. Jews in the Middle Ages (HIST/RELG 332) (3 cr)

JUDS 333. Jews in the Modern World (HIST 333) (3 cr)

### PHIL 223. Intro to Philosophy of History (3 cr)

### PHIL 231. History of Philosophy (Ancient) (3 cr)

### PHIL 232. History of Philosophy (Modern) (3 cr)

PHIL 331. Hellenistic Philosophy (3 cr)

### PHIL 335. Medieval Philosophy (3 cr)

### PHIL 336. Ethics—Ancient & Medieval (3 cr)

### PHIL 337. Knowledge—Ancient & Medieval (3 cr)

### PHIL 338. Metaphysics—Ancient & Medieval (3 cr)

POLS 380. American Political Thought (3 cr)

POLS 385. Democratic Theory (3 cr)

### RELG 182. Alpha Learning Community Freshman Seminar (3 cr)

### RELG 183. Alpha Learning Community Freshman Seminar (3 cr)

### RELG 206. Ways of Western Religion (CLAS 206G) (3 cr)

RELG 217. Israel: The Holy Land (HIST/JUDS 217) (3 cr)

RELG 308. History of Comparative Religion (CLAS/HIST 308) (3 cr)

RELG 332. Jews in the Middle Ages (HIST/JUDS 332) (3 cr)

### SPAN 321. Spanish Civilization (3 cr)

### SPAN 331. Latin American Civilization (3 cr)

WMNS 329. Women in European History (HIST 329) (3 cr)

## F. Humanities

The humanities requirement is intended to impart knowledge of literary, philosophical, or religious efforts to interpret and illuminate human existence.

### AECN 388. Ethics in Agriculture & Natural Resources (ALEC 388) (3 cr)

### ALEC 388. Ethics in Agriculture & Natural Resources (AECN 388) (3 cr)

### CLAS 180. Classical Mythology (3 cr)

### CLAS 182. Alpha Learning Community Freshman Seminar (3 cr)

### CLAS 183. Alpha Learning Community Freshman Seminar (3 cr)

### CLAS 189H. University Honors Seminar (3 cr)

### CLAS 205. Intro to the Hebrew Bible/Old Testament (JUDS/RELG 205) (3 cr)

### CLAS 206G. Ways of Western Religion (RELG 206) (3 cr)

### CLAS 281. The World of Classical Greece (ENGL 240A) (3 cr)

### CLAS 282. The World of Classical Rome (ENGL 240B) (3 cr)

CLAS 283. Epic Tales: The Worlds Heroes & Gods (3 cr)

CLAS 286. Literature of the Ancient Near East (3 cr)

CLAS 307. Early Christianity (HIST/RELG 307) (3 cr)

### CLAS 340. Women in the Biblical World (JUDS/RELG 340) (3 cr)

### CLAS 350. Literature of Judaism (JUDS/RELG 350) (3 cr)

CLAS 381. Ancient Novel (ENGL 381) (3 cr)

### CLAS 409. The Religion of Late Western Antiquity (HIST/RELG 409) (3 cr)

CLAS 483. Classical Drama (ENGL 483) (3 cr)

COMM 205. Performance of Literature (3 cr)

### COMM 220. Intro to the Study of Public Discourse (3 cr)

COMM 306. Readers Theatre (3 cr)

### ENGL 180. Intro to Literature (3 cr)

### ENGL 189H. University Honors Seminar (3 cr)

### ENGL 200. Intro to English Studies (3 cr)

### ENGL 201A. Intro to Drama (3 cr)

ENGL 201B. Twentieth-Century Drama (3 cr)

### ENGL 202. Twentieth-Century Poetry (3 cr)

ENGL 202A. Intro to Poetry (3 cr)

### ENGL 205. Twentieth-Century Fiction (3 cr)

### ENGL 209. Film: The Documentary (3 cr)

### ENGL 210B. Sex Roles in Literature (3 cr)

### ENGL 210L. Illness & Health in Literature (3 cr)

### ENGL 210T. Stories & Human Experience (3 cr)

### ENGL 211A. Literature of the Great Plains (3 cr)

ENGL 211D. Literatures of the South (3 cr)

### ENGL 213E. Intro to Film History (3 cr)

### ENGL 215E. Intro to Women's Literature (3 cr)

### ENGL 215J. Twentieth-Century Women Writers (3 cr)

ENGL 216A. Children's Literature (3 cr)

### ENGL 219. Film Genre (3 cr)

### ENGL 230. English Authors Before 1800 (3 cr)

### ENGL 230A. Shakespeare (3 cr)

### ENGL 231. English Authors After 1800 (3 cr)

### ENGL 233B. Major American Authors (3 cr)

ENGL 234A. Classic European Authors (3 cr)

ENGL 234B. European Authors Since 1660 (3 cr)

ENGL 234D. Major Themes in World Literature (MODL 234D) (3 cr)

### ENGL 239B. Women Filmmakers (3 cr)

### ENGL 240A. The World of Classical Greece (CLAS 281) (3 cr)

### ENGL 240B. The World of Classical Rome (CLAS 282) (3 cr)

### ENGL 243B. Literature of India (3 cr)

### ENGL 244. African American Literature (3 cr)

### ENGL 244A. Intro to African Literatures (3 cr)

### ENGL 244B. Black Women Authors (3 cr)

### ENGL 244D. African-Caribbean Literature (3 cr)

### ENGL 244E. Early African American Literature (3 cr)

### ENGL 245B. Native American Literature (3 cr)

### ENGL 245D. Chicano Literature (3 cr)

### ENGL 245J. Jewish-American Fiction (3 cr)

### ENGL 247. Literature & Arts on the Plains (3 cr)

### ENGL 261E. American Literary Works (3 cr)

### ENGL 282. Literature & the Other Arts (3 cr)

ENGL 285. Intro to Comparative Literature (MODL 285) (3 cr)

### ENGL 303. Short Story (3 cr)

### ENGL 305A. The Novel 1700-1900 (3 cr)

ENGL 311D. Literature of Socialism (3 cr)

### ENGL 315A. Survey of Women's Literature (3 cr)

ENGL 315B. Women in Popular Culture (3 cr)

ENGL 330E. Chaucer, Shakespeare, Milton (3 cr)

### ENGL 340. Classical Roots of English Literature (3 cr)

### ENGL 341. Judaeo-Christian Literature (3 cr)

ENGL 342A. Irish Literature (3 cr)

### ENGL 347. Humanities on the Plains (3 cr)

### ENGL 361A. Intro to Early American Literature (3 cr)

### ENGL 361B. Intro to Late American Literature (3 cr)

### ENGL 362. Intro to Medieval Literature (3 cr)

### ENGL 363. Intro to Renaissance Literature (3 cr)

### ENGL 364. Intro to Restoration & Eighteenth-Century Literature (3 cr)

### ENGL 365. Intro to Nineteenth-Century British Literature (3 cr)

### ENGL 373. Film Theory & Criticism (3 cr)

ENGL 381. Ancient Novel (CLAS 381) (3 cr)

ENGL 440. Classical Drama (CLAS 483) (3 cr)

### ETHN 189H. University Honors Seminar (3 cr)

FREN 282. French Literature in Translation (3 cr)

### FREN 301. Representative Authors I (3 cr)

**FREN 302. Representative Authors II (3 cr)**  
GERM 282. German Literature in Translation (3 cr)  
**GERM 301. Representative Authors I (3 cr)**  
**GERM 302. Representative Authors II (3 cr)**  
HIST 307. Early Christianity (CLAS/RELG 307) (3 cr)  
HIST 349. Ideas in America to the Civil War (3 cr)  
HIST 350. Ideas in America Since the Civil War (3 cr)  
**HIST 409. The Religion of Late Western Antiquity (CLAS/RELG 409) (3 cr)**  
ITAL 301. Representative Authors I (3 cr)  
ITAL 302. Representative Authors II (3 cr)  
**JUDS 205. Intro to the Hebrew Bible/Old Testament (CLAS/RELG 205) (3 cr)**  
**JUDS 340. Women in the Biblical World (CLAS/RELG 340) (3 cr)**  
**JUDS 350. Literature of Judaism (CLAS/RELG 350) (3 cr)**  
**MODL 189H. University Honors Seminar (3 cr)**  
MODL 232. The Jewish Idea in Modern Literature (3 cr)  
MODL 234D. Major Themes in World Literature (ENGL 234D) (3 cr)  
MODL 285. Intro to Comparative Literature (ENGL 285) (3 cr)  
**PHIL 101. Intro to Philosophy (3 cr)**  
**PHIL 106. Philosophy & Current Issues (3 cr)**  
**PHIL 110. Intro to Logic & Critical Thinking (3 cr)**  
**PHIL 116. Philosophy & Religious Belief (3 cr)**  
**PHIL 182. Alpha Learning Community Freshman Seminar (3 cr)**  
**PHIL 183. Alpha Learning Community Freshman Seminar (3 cr)**  
**PHIL 213. Medical Ethics (3 cr)**  
**PHIL 220. Elements of Ethics (3 cr)**  
PHIL 221. Political Philosophy (3 cr)  
**PHIL 223. Philosophy of History (3 cr)**  
**PHIL 230. Philosophy of Law (3 cr)**  
**PHIL 231. History of Philosophy (Ancient) (3 cr)**  
**PHIL 232. History of Philosophy (Modern) (3 cr)**  
PHIL 265. Philosophy of Religion (3 cr)  
**PHIL 301. Theory of Knowledge (3 cr)**  
**PHIL 302. Metaphysics (3 cr)**  
**PHIL 314. Problems in the Philosophy of Mind (3 cr)**  
PHIL 317. Philosophy of Science (3 cr)  
**PHIL 320. Ethical Theory (3 cr)**  
**PHIL 323. Topics in Applied Ethics (3 cr)**  
**PHIL 325. Advanced Social Political Philosophy (3 cr)**  
**PHIL 327. Aesthetics (3 cr)**  
PHIL 331. Hellenistic Philosophy (3 cr)  
**PHIL 332. Spinoza (3 cr)**  
**PHIL 335. Medieval Philosophy (3 cr)**  
**PHIL 336. Ethics–Ancient & Medieval (3 cr)**  
**PHIL 337. Knowledge–Ancient & Medieval (3 cr)**  
**PHIL 338. Metaphysics–Ancient & Medieval (3 cr)**  
PHIL 340. Contemporary Analytical Philosophy (3 cr)  
**PHIL 341. Contemporary Continental Philosophy (3 cr)**  
**PHIL 342. American Philosophy (3 cr)**  
PORT 301. Representative Authors I (3 cr)  
PORT 302. Representative Authors II (3 cr)  
**RELG 150. Explaining Religion (3 cr)**  
**RELG 182. Alpha Learning Community Freshman Seminar (3 cr)**  
**RELG 183. Alpha Learning Community Freshman Seminar (3 cr)**  
**RELG 205. Intro to the Hebrew Bible/Old Testament (CLAS/JUDS 205) (3 cr)**  
**RELG 206. Ways of Western Religion (CLAS 206G) (3 cr)**  
RELG 307. Early Christianity (CLAS/HIST 307) (3 cr)  
**RELG 310. Great Ideas in Religious Thought: From God to Nothingness (3 cr)**  
**RELG 340. Women in the Biblical World (CLAS/JUDS 340) (3 cr)**

**RELG 350. Literature of Judaism (CLAS/JUDS 350) (3 cr)**  
**RELG 409. The Religion of Late Western Antiquity (CLAS/HIST 409) (3 cr)**  
RUSS 301. Representative Authors (3 cr)  
RUSS 302. Representative Authors (3 cr)  
**RUSS 482. Russian Literature in Translation I (3 cr)**  
**RUSS 483. Russian Literature in Translation II (3 cr)**  
SPAN 264. Spanish-American Literature in Translation I (1-24 cr)  
SPAN 265. Spanish-American Literature in Translation II (1-24 cr)  
**SPAN 305. Literary Analysis in Spanish (3 cr)**  
**SPAN 311. Representative Spanish-American Authors I (3 cr)**  
**SPAN 312. Representative Spanish-American Authors II (3 cr)**  
**SPAN 314. Representative Authors of Spain I (3 cr)**  
**SPAN 315. Representative Authors of Spain II (3 cr)**  
**SPAN 331. Latin American Civilization (3 cr)**  
**WMNS 189H. University Honors Seminar (3 cr)**

**G. Arts**

The arts area is intended to impart knowledge of the history and creation of music, art, design, architecture, drama, dance, photography, or the communication media. Courses in this area focus primarily on the creation and performance of the fine and performing arts.

AHIS 101. Intro to Art History & Criticism I (3 cr)  
AHIS 102. Intro to Art History & Criticism II (3 cr)  
AHIS 211. Classical Art & Archeology (3 cr)  
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 246. Modern Art (3 cr)  
AHIS 251. Art in the United States (3 cr)  
AHIS 256. Latin American Art (3 cr)  
AHIS 261. Oriental Art (3 cr)  
AHIS 262. Oriental Art (3 cr)  
AHIS 341. European Art of the Nineteenth Century (3 cr)  
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. History of Photography (3 cr)  
ARCH 106. Environmental Studies (IDES 106) (3 cr)  
CERM 131. Intro to Ceramics (3 cr)  
CERM 231. Beginning Ceramics I (3 cr)  
CERM 232. Beginning Ceramics II (3 cr)  
**COMM 212. Debate (3 cr)**  
**CURR 450. American Cultural Perspectives through Popular Music & Guitar (MUED/MUNM 450) (3 cr)**  
**DANC 159. Intro to Dance (3 cr)**  
**DANC 359. History of Dance (3 cr)**  
**DANC 459. Twentieth-Century Dance (3 cr)**  
**DESN 111. Foundation Design (3 cr)**  
DRAW 101. Beginning Drawing I (3 cr)  
DRAW 102. Beginning Drawing II (3 cr)  
DRAW 201. Intermediate Drawing (3 cr)  
DRAW 202. Life Drawing (3 cr)  
**ENGL 252. Writing of Fiction (3 cr)**  
**ENGL 253. Writing of Poetry (3 cr)**  
**ENGL 259A. Writing for Films & TV (3 cr)**  
GRPH 221. Beginning Graphic Design (3 cr)  
GRPH 223. Basic Topography (3 cr)  
**HORT 200. Landscape & Environmental Appreciation (3 cr)**  
IDES 106. Environmental Studies (ARCH 106) (3 cr)

**MUED 450. American Cultural Perspectives through Popular Music & Guitar (CURR/MUNM 450) (3 cr)**  
**MUNM 276G. The Music Experience (3 cr)**  
**MUNM 280. World Music (3 cr)**  
**MUNM 287. The History of Rock Music (3 cr)**  
MUNM 387. History of American Jazz (3 cr)  
MUNM 388. Arts of the 20th Century: 1900-1945 (AHIS/THEA 388) (3 cr)  
MUNM 389. Arts of the 20th Century: 1945-Present (AHIS/THEA 389) (3 cr)  
**MUNM 450. American Cultural Perspectives through Popular Music & Guitar (CURR/MUED 450) (3 cr)**  
**MUSC 278. Analytical Listening to Music Literature (3 cr)**  
**MUSC 365. Music History & Literature I (3 cr)**  
**MUSC 366. Music History & Literature II (3 cr)**  
PANT 251. Beginning Painting I (3 cr)  
PANT 252. Beginning Painting II (3 cr)  
PHOT 261. Beginning Photography (3 cr)  
PHOT 262. Intermediate Photography (3 cr)  
PHOT 263. Color Photography (3 cr)  
PRNT 241. Beginning Printmaking I (3 cr)  
PRNT 242. Beginning Printmaking II (3 cr)  
SCLP 211. Beginning Sculpture I (3 cr)  
SCLP 212. Beginning Sculpture II (3 cr)  
**THEA 112G (112H). Intro to Theatre (3 cr)**  
THEA 114. Basic Acting I (3 cr)  
THEA 131. Intro to Playwriting (3 cr)  
THEA 201. Technical Theatre Practice (3 cr)  
**THEA 234. Scripts in Performance (3 cr)**  
**THEA 335. History of Theatre I (3 cr)**  
**THEA 336. History of Theatre II (3 cr)**  
THEA 388. Arts of the 20th Century: 1900-1945 (AHIS/MUNM 388) (3 cr)  
THEA 389. Arts of the 20th Century: 1945-Present (AHIS/MUNM 389) (3 cr)  
TXCD 121. Design Essentials (3 cr)  
TXCD 225. Surface Design on Textiles (3 cr)  
TXCD 323. Fashion Illustration (3 cr)  
**TXCD 325. Woven & Nonwoven Textile Design (3 cr)**

**H. Ethnicity and Gender**

The ethnicity and gender area is intended to provide 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.

**ANTH 252. Archaeology of World Civilizations (CLAS 252) (3 cr)**  
ANTH 351. Peoples & Cultures of Native North America (ETHN 351) (3 cr)  
ANTH 352. Intro to Plains Ethnology (ETHN 352) (3 cr)  
ANTH 362. Peoples & Cultures of Africa (3 cr)  
ANTH 366. Peoples & Cultures of East Asia (3 cr)  
**CLAS 182. Alpha Learning Community Freshman Seminar (3 cr)**  
**CLAS 183. Alpha Learning Community Freshman Seminar (3 cr)**  
**CLAS 252. Archaeology of World Civilizations (ANTH 252) (3 cr)**  
**CLAS 340. Women in the Biblical World (JUDS/RELG 340) (3 cr)**  
**CLAS 350. Literature of Judaism (JUDS/RELG 350) (3 cr)**  
**COMM 211. Intercultural Communication (ETHN 211) (3 cr)**  
**COMM 380. Gender & Communication (3 cr)**  
**CURR 330. Multicultural Education (ETHN 330) (3 cr)**  
ECON 357. Women & Work in the US Economy (3 cr)  
**ENGL 210B. Sex Roles in Literature (3 cr)**  
**ENGL 215E. Intro to Women's Literature (3 cr)**

<b>ENGL 215J. Twentieth-Century Women Writers (3 cr)</b>	HIST 333. Jews in the Modern World (JUDS 333) (3 cr) HIST 339. The Holocaust (3 cr)
<b>ENGL 239B. Women Filmmakers (3 cr)</b>	HIST 356. Race & Ethnicity in the American West (ETHN 356) (3 cr)
<b>ENGL 243B. Literature of India (3 cr)</b>	HIST 357. The History & Culture of the Mexican-American (ETHN 357) (3 cr)
<b>ENGL 244. African American Literature (3 cr)</b>	HIST 358. The History & Culture of the American Indian (3 cr)
<b>ENGL 244A. Intro to African Literatures (3 cr)</b>	HIST 370. The Making of Colonial Mexico (ETHN 370) (3 cr)
<b>ENGL 244B. Black Women Authors (3 cr)</b>	HIST 371. The Shaping of Modern Mexico (ETHN 371) (3 cr)
<b>ENGL 244D. African-Caribbean Literature (3 cr)</b>	HIST 372. Revolutions in Twentieth-Century Latin America (3 cr)
<b>ENGL 244E. Early African American Literature (3 cr)</b>	HIST 381. History of Premodern Japan (3 cr)
<b>ENGL 245B. Native American Literature (3 cr)</b>	HIST 382. History of Modern Japan (3 cr)
<b>ENGL 245D. Chicano Literature (3 cr)</b>	HIST 383. History of Premodern China (3 cr)
<b>ENGL 245J. Jewish-American Fiction (3 cr)</b>	HIST 384. History of Modern China (3 cr)
<b>ENGL 315A. Survey of Women's Literature (3 cr)</b>	<b>HIST 485. Africa Since 1800 (ETHN 485) (3 cr)</b>
<b>ENGL 315B. Women in Popular Culture (3 cr)</b>	HIST 486. History of South Africa (3 cr)
<b>ETHN 100. Freshman Seminar—The Minority Experience (3 cr)</b>	JUDS 217. Israel: The Holy Land (HIST/RELG 217) (3 cr)
<b>ETHN 150. African Culture &amp; Civilization (HIST 150) (3 cr)</b>	JUDS 332. Jews in the Middle Ages (HIST/RELG 332) (3 cr)
<b>ETHN 171. Latin American Culture &amp; Civilization (HIST 171) (3 cr)</b>	JUDS 333. Jews in the Modern World (HIST 333) (3 cr)
<b>ETHN 189H. University Honors Seminar (3 cr)</b>	<b>JUDS 340. Women in the Biblical World (CLAS/RELG 340) (3 cr)</b>
<b>ETHN 211. Intercultural Communication (COMM 211) (3 cr)</b>	<b>JUDS 350. Literature of Judaism (CLAS/RELG 350) (3 cr)</b>
<b>ETHN 217. Nationality &amp; Race Relations (SOCI 217) (3 cr)</b>	MODL 232. The Jewish Idea in Modern Literature (3 cr)
<b>ETHN 218. Chicanos in American Society (SOCI 218) (3 cr)</b>	<b>MUNM 280. World of Music (3 cr)</b>
<b>ETHN 238. Blacks &amp; the American Political System (POLS 238) (3 cr)</b>	<b>NUTR 253. Cultural Aspects of Food &amp; Nutrition (3 cr)</b>
<b>ETHN 241. Native America History (HIST 241) (3 cr)</b>	POLS 171. Intro to East Asian Civilization (HIST 181) (3 cr)
<b>ETHN 306. African American History, 1619-1930 (HIST 306) (3 cr)</b>	<b>POLS 238. Blacks &amp; the American Political System (ETHN 238) (3 cr)</b>
<b>ETHN 310. Psychology of Immigration (3 cr) (PSYC 310)</b>	<b>POLS 272. Non-Western Politics (3 cr)</b>
<b>ETHN 330. Multicultural Education (CURR 330) (3 cr)</b>	<b>POLS 274. Developmental Politics in East Asia (3 cr)</b>
<b>ETHN 351. Peoples &amp; Cultures of Native North America (ANTH 351) (3 cr)</b>	POLS 277. Latin American Politics (3 cr)
<b>ETHN 352. Intro to Plains Ethnology (ANTH 352) (3 cr)</b>	<b>PSYC 310. Psychology of Immigration (3 cr) (ETHN 310)</b>
<b>ETHN 356. Race &amp; Ethnicity in the American West (HIST 356) (3 cr)</b>	PSYC 421. Psychology of Women (3 cr)
<b>ETHN 357. The History &amp; Culture of the Mexican-American (HIST 357) (3 cr)</b>	<b>RELG 182. Alpha Learning Community Freshman Seminar (3 cr)</b>
<b>ETHN 370. The Making of Colonial Mexico (HIST 370) (3 cr)</b>	<b>RELG 183. Alpha Learning Community Freshman Seminar (3 cr)</b>
<b>ETHN 371. The Shaping of Modern Mexico (HIST 371) (3 cr)</b>	RELG 217. Israel: The Holy Land (HIST/JUDS 217) (3 cr)
<b>ETHN 448. Family Diversity (SOCI 448) (3 cr)</b>	RELG 332. Jews in the Middle Ages (HIST/JUDS 332) (3 cr)
<b>ETHN 485. Africa Since 1800 (HIST 485) (3 cr)</b>	<b>RELG 340. Women in the Biblical World (CLAS/JUDS 340) (3 cr)</b>
<b>FREN 323. Aspects of Francophone Civilization (3 cr)</b>	<b>RELG 350. Literature of Judaism (CLAS/JUDS 350) (3 cr)</b>
<b>GEOG 375. Geography of Asia (3 cr)</b>	<b>SOCI 182. Alpha Learning Community Freshman Seminar (3 cr)</b>
<b>GEOG 378. Geography of Latin America (3 cr)</b>	<b>SOCI 183. Alpha Learning Community Freshman Seminar (3 cr)</b>
<b>HIST 150. African Culture &amp; Civilization (ETHN 150) (3 cr)</b>	<b>SOCI 189H. University Honors Seminar (3 cr)</b>
<b>HIST 171. Latin American Culture &amp; Civilization (ETHN 171) (3 cr)</b>	<b>SOCI 200. Women in Contemporary Society (3 cr)</b>
<b>HIST 181. Intro to East Asian Civilization (POLS 171) (3 cr)</b>	<b>SOCI 217. Nationality &amp; Race Relations (ETHN 217) (3 cr)</b>
<b>HIST 217. Israel: The Holy Land (JUDS/RELG 217) (3 cr)</b>	<b>SOCI 448. Family Diversity (ETHN 448) (3 cr)</b>
<b>HIST 218. History of Islam (3 cr)</b>	<b>SOCI 460. Education &amp; Society (3 cr)</b>
<b>HIST 219. Intro to Jewish History (3 cr)</b>	SPAN 264. Spanish-American Literature in Translation (1-24 cr)
<b>HIST 225. Women in History (3 cr)</b>	SPAN 265. Spanish-American Literature in Translation (1-24 cr)
<b>HIST 241. Native American History (ETHN 241) (3 cr)</b>	<b>SPAN 331. Latin American Civilization (3 cr)</b>
<b>HIST 271. The Latin American Colonies (3 cr)</b>	<b>WMNS 189H. University Honors Seminar (3 cr)</b>
<b>HIST 272. The Latin American Republics (3 cr)</b>	WMNS 329. Women in European History (HIST 329) (3 cr)
<b>HIST 282. Modern East Asia (3 cr)</b>	
<b>HIST 306. African American History, 1619-1930 (ETHN 306) (3 cr)</b>	
<b>HIST 329. Women in European History (WMNS 329) (3 cr)</b>	
<b>HIST 332. Jews in the Middle Ages (JUDS/RELG 332) (3 cr)</b>	

## I. Languages—Classical and Modern

The languages requirement serves to help students gain a working familiarity with a language and a culture other than their own.

CHIN 101. Beginning Chinese I (5 cr)  
CHIN 102. Beginning Chinese II (5 cr)  
CHIN 201. Second-Year Chinese I (3 cr)  
CHIN 202. Second-Year Chinese II (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)  
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. Composition & Conversation (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 361. Homer (3 cr)  
GREK 371. Xenophon (3 cr)  
GREK 372. Plato (3 cr)  
GREK 373. New Testament Greek (3 cr)  
HEBR 101. Elementary Biblical Hebrew (5 cr)  
HEBR 102. Elementary Biblical Hebrew (5 cr)  
HEBR 201. Biblical Hebrew Prose (3 cr)  
HEBR 202. Biblical Hebrew Poetry (3 cr)  
ITAL 101. Beginning Italian I (5 cr)  
ITAL 102. Beginning Italian II (5 cr)  
ITAL 201. Second-Year Italian I (3 cr)  
ITAL 202. Second-Year Italian II (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 (5 cr)  
LATN 102. Elementary Latin (5 cr)  
LATN 201. Latin Prose (3 cr)  
LATN 301. Cicero (3 cr)  
LATN 302. Vergil (3 cr)  
PORT 110. Accelerated Beginning Portuguese (10 cr)  
PORT 210. Accelerated Second-Year Portuguese (6 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)  
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)

## Integrative Studies Courses

Each student will take ten courses which have been reviewed and designated as Integrative Studies [IS] courses. These are standard university courses which engage students intensively in those intellectual activities which are the hallmarks of the educated person—writing, speaking, critical thinking, and the consideration of human diversity. Integrative Studies courses can be taken from any university department (including the major), with a limit of three from one department. Out of ten IS courses, at least one must be a 200-level course, one a 300-level course, and one a 400-level course. **Always check with your college adviser about**

**applying particular courses towards your Integrative Studies requirements.** Many IS courses will also be ES (Essential Studies) courses, so that students will be able to fulfill both requirements simultaneously.

**NOTE:** For students in the College of Arts and Sciences no courses offered through correspondence, those with an (x) designation, may be applied to the Integrative Studies requirement.

For a list of approved Integrative Studies courses, see "Integrative Studies Program List" on page 23.

## 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 Arts and Sciences are required to take this course in their first year.

**110. Introduction to Library Research (2 cr)**  
A seven-week independent learning course designed to provide a practical understanding of libraries, their organization, tools and services. 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 351.

## Areas of Study for the Major and Minor

### The Major

Students will usually begin by working on general education requirements. If a major field has not already been chosen, work on the general education requirements may help students to establish their interests and capabilities. 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.

Transfer students must take additional courses in their chosen major field (normally at least 9 hours) regardless of the number of hours transferred.

### The Minor

The only minors available outside the College for arts and sciences students are listed in the following section "Areas of Study" under "Areas Offering Minors Only".

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.** A single minor is completed and the requirements for individual minors are stated in the areas of study listings. In support of certain majors, minors outside the College of Arts and Sciences are permitted under this plan.

**Plan B.** Two minors are completed with fewer hours in each subject than the number required for a single minor. Hour requirements are stated in the areas of study listings. In support of certain majors, minors outside the College of Arts and Sciences are permitted under this plan.

## Areas of Study

The College of Arts and Sciences offers study toward the major and minor in many areas. In addition to the listed areas, the integrated studies option (see "Individualized Program of Studies (IPS)" on page 171) 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 College of Arts and Sciences includes:

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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:** Colin M. Ramsay, 210 CBA

**Professor:** Ramsay

**Assistant Professor:** Mashayekhi

The actuarial science program covers all of the mathematical topics on the Society of Actuaries 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.

Most students in the program take all of the actuarial science courses offered, regardless of major. 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 106H-107H, or the equivalent); MATH 314 and the following statistics and probability sequence: STAT 380, 482, 483 and 21 semester hours of actuarial science. (See actuarial science adviser for specified courses in actuarial science.) Students must complete STAT 482 before taking any 400-level actuarial science course except ACTS 440; STAT 483 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 course.

**Plan B.** Requires 12 hrs plus prerequisite mathematics and statistics courses.

### Courses of Instruction (ACTS)

**399. Independent Study** (1-3 cr) Prereq: Permission.

**401. SOA Exam I Prep** (1 cr) Prereq: MATH 208, STAT 482 with a grade of C or better; or permission. Applications of calculus and mathematical statistics in risk management related problems including problems involving computation of actuarially fair premiums, deductibles, loss severity, loss frequency, and loss sharing. Problems relevant to the Society of Actuaries Exam I.

**402. SOA Exam II Prep** (1 cr) Prereq: ECON 211, 212, 311; ACTS 440; FINA 461; or permission. Application of utility theory to actuarial pricing. Problems relevant to the Society of Actuaries Exam I.

**425/825. Survival Models** (3 cr) Lec. Prereq: STAT 483/883 with a grade of C or better. Parametric and tabular survival models. Estimation based on observations which may not be complete. Concomitant variables. Use of population data. Applications to groups of impaired lives.

**430/830. Actuarial Forecasting Techniques** (3 cr) Prereq: STAT 483. Introduction to model building and forecasting in actuarial science. Includes simple and multiple regression, instrumental variables, and time series methods, and applications of these methods in forecasting actuarial variables such as interest rates, inflation rates, and claim frequencies.

**440/840. Theory of Interest** (3 cr) Lec. Prereq or Parallel: MATH 208 and ACTS 370, both with grades of C or better. Basic measures of interest, annuities-certain, amortization schedules, sinking funds, bonds, and installment loans.

**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) Prereq: STAT 483/883 or permission. Introduction to stochastic processes and their applications in actuarial science. Includes discrete-time and continuous-time processes, Markov chains, the Poisson process, compound Poisson processes, non-homogeneous Poisson processes, arithmetic and geometric Brownian motions, and applications of these processes in computation of resident fees for continuing care retirement communities, and pricing of financial instruments.

**470/870. Life Contingencies I** (3 cr) Prereq: ACTS 440 and STAT 482, both with a grade of C or better. First course of the sequence of two on the theory and applications of contingency mathematics in the areas of life and health insurance, annuities and pensions. Probabilistic models are emphasized including net.

**471/871. Life Contingencies II** (3 cr) Prereq: ACTS 470 and STAT 482 both with grades of C or better. Life insurance reserve for models based on a single life. Introduction to multiple life models for pensions and life insurance. Introduction to multiple decrement models.

**473/873. Introduction to Risk and Credibility Theory** (3 cr) Prereq: STAT 483/883 or permission. 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, limited fluctuation credibility, Bayesian credibility and Bühlmann-Straub credibility, and simulation.

**475/875. Actuarial Pricing in Practice** (3 cr) Prereq: ACTS 471, FINA 412. Principles and practices of determining premium rates, reserves and dividends for life and health insurance and annuities. Statutory commercially available actuarial pricing software may be used to illustrate these concepts.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## African American and African Studies

### (Minor only)

**Coordinator and Undergraduate Adviser for African American Studies:** Venetria Patton (English/ethnic studies), 420 University Terrace #201E

**Undergraduate Adviser for African Studies:** Robert Hitchcock (anthropology), 121 Bessey Hall

**Faculty:** Blake (communication studies/ethnic studies), Caldwell (educational psychology/ethnic studies), Calhoun (sociology), Combs (political science), Coope (history), Dorsey (history/ethnic studies), Eggers (English), Ferguson (English), Hitchcock (anthropology), Kelly (communication studies/ethnic studies), Kennedy (history), Norton (journalism), Owomoyela (English), Parker (sociology), Patton (English/ethnic studies), Rinkevich (classics), Stephens (communication studies/ethnic studies)

**University Staff:** Smith (Multi-Cultural Affairs)

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)  
CLAS 398K. Special Topics in Classics (1-24 cr)  
ENGL 244. African-American Literature (3 cr)  
ETHN 150. African Culture & Civilization (HIST 150) (3 cr)  
ETHN 485. Africa Since 1800 (HIST 485/885) (2-3 cr)  
Interdisciplinary Pro-seminar 478/878. Pro-seminar in Latin American Studies (3-6 cr)  
MODL 498/898. Special Topics (1-24 cr)  
POLS 260. Problems in International Relations (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

• 18 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)  
ENGL 101A. Composition & Literature I (Black Literature section) (3 cr)  
ENGL 102A. Composition & Literature II (Black Literature section) (3 cr)  
ENGL 244. African American Literature (3 cr)  
ENGL 244B. Black Women Authors (3 cr)  
ENGL 244E. Early African American Literature (3 cr)  
ENTH 150. African Cultural & Civilization (HIST 150) (3 cr)  
ENTH 212. Intro to Cultural Anthropology (ANTH 212) (3 cr)  
ENTH 217. Nationality & Race Relations (SOCI 217) (3 cr)  
ETHN 238. Blacks & the American Political System (POLS 238) (3 cr)  
ETHN 330. Multicultural Education (CURR 330) (3 cr)  
ETHN 481. Minority Groups (SOCI 481) (3 cr)  
ETHN 485. Africa Since 1800 (HIST 485) (2-3 cr)  
HIST 306. African American History, 1619-1930 (3 cr)  
HIST 486. History of South Africa (3 cr)  
MUNM 387. History of American Jazz (3 cr)

## Agricultural Economics

(Minor only)

Coordinator: Anne Kopera, 107 Oldfather Hall

### Requirements for the Minor in Agricultural Economics

**Plan B.** At least 12 hours of agricultural economics courses.

## Anthropology

Chair: Patricia Draper, 126 Bessey Hall

Professors: Bleed, Draper, Foster, Barnes, Myers

Associate Professors: Hitchcock, Reinhard,

Wandsnider

Assistant Professors: Athanassopoulos, McCollough

Courses in anthropology are designed to acquaint the student with the range of human behavior and emphasize prehistory, archaeology, physical anthropology, human biology, linguistics, society and culture, and applied anthropology.

The Department of Anthropology participates in the programs in African Studies, Asian Studies, Ethnic Studies, Environmental Studies, International Affairs, Latin American Studies, Women's Studies, and the Institute for International Studies.

**The Courses.** To register for anthropology courses numbered 400 or above, a student must have completed 12 hours of course work in anthropology and have permission.

Departmental permission must be granted before a student may take a major or minor course for pass/no pass (P/N) credit. Request forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

### Requirements for the Major in Anthropology

- 30 hours of anthropology including ANTH 212, 232, 242, and at least 12 hours in courses numbered in the 300- and 400-series. ANTH 107, 110 may not be included in the 30 hours required for the major. Fieldwork is recommended. 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:

1. To complete an oral examination which focuses on the breadth of the field as well as on the student's field of specialization.
2. 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

- 18 hours

**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)

#### [ES] 107. Individual and Society (3 cr)

Relationship of individuals to society, examining the methods of the social sciences and uses them to examine the bases of individual behavior and how individuals interact to form groups and social institutions. A broad appreciation of both the human condition and the social scientific approach to the study of human kind.

#### [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.

**NOTE: Students who have previously taken ANTH 100 may not receive credit for ANTH 110.**

#### [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.

### Introductory

#### 170. Introduction to Great Plains Studies (GPSP 100; GEOG, NRES, SOCI 170) (3 cr) Required for Great Plains Studies majors and minors.

For course description, see GPSP 100.

#### [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.

#### [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.

#### [ES][IS] 242. Introduction to Physical Anthropology (3 cr)

The scope and objectives of physical anthropology, the primate life cycle, human biology, fossil man, contemporary races, techniques of anthropometry.

#### [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 reviews archaeological data from specific regions, e.g. Near East, Far East, Mediterranean, Europe, Mesoamerica, Peru, etc.

### Cultural Anthropology

#### 350. Indians of Latin America (ETHN 350) (3 cr) Prereq: 6 hrs of social science.

History and life of the Latin American Indian with emphasis on cultural and geographical variation and attention to cultural change and ethnological problems.

#### [ES] 351. Peoples and Cultures of Native North America (ETHN 351) (3 cr) Prereq: 6 hrs of social science.

Introduction to the ethnography of native North America outlining the history and traditional lifeways of Indian and Eskimo groups. Emphasis on the regionally diverse cultural adaptations made by native North American groups before direct contact with European civilization.

#### [ES] 352. Introduction to Plains Ethnology (ETHN 352) (3 cr) Prereq: 6 hrs of social science.

Native American cultures in the Plains area from the time of European contact through the ethnographic present. Emphasis on early migrations, trade networks, effects of European technology and social systems on tribal cultures, and present cultural diversity among Plains Indians.

#### [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.

#### 360. Peoples and Cultures of Oceania (3 cr)

Ethnology of the Pacific area. Survey of the native ways of life with emphasis on the variations of cultural developments in Melanesia, Micronesia, and Polynesia. Problems of culture history and general ethnology examined in relation to the major fields of anthropology.

#### [ES] 362. Peoples and Cultures of Africa (3 cr) Prereq: 6 hrs of social science.

Introduction to the ethnological complexity and cultural diversity of the native ways of life based on a review of 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.

#### 365. Ethnology of Europe (3 cr) Prereq: 6 hrs social science.

Cultural and ecological origins and development of peasantries and other intermediate societies in Western Europe from feudal to modern times.

#### [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.

#### 410/810. Women and Men: An Anthropological Perspective (3 cr)

Cross-cultural exploration of the meaning and impact of gender definition, with emphasis on women. Gender is examined as a correlate of biology, language, economic systems, social and political structures, and belief systems.

#### [IS] 412/812. Social Structure (3 cr)

Analysis of social structure emphasizing kin and local groups.

#### 413/813. Culture and Personality (3 cr) Prereq: ANTH 212 or permission.

A particular sub-area of cultural anthropology—the individual personality in specific ethnographic contexts.

#### 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 (MUSS 870) (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.

**421/821. The School Culture of Minorities: Investigations in Educational Anthropology** (3 cr)  
 Applies the principles of anthropology to school settings and educational processes. Major emphases include American minorities, the culture of schools, and education as a process in the range of societies studied by anthropologists. Introduction to ethnographic methods.

**[IS] 451/851. Indians of Contemporary North America** (ETHN 451) (3 cr) Prereq: 12 hrs anthropology and permission. ANTH 351 strongly recommended.

Survey of contemporary North American Indian cultures focusing upon the effects of culture change and the causes of conflict. Impact of modern technology and non-Indian societies upon traditional kinship structures, educational institutions, religious beliefs, and value systems. Emphasis on understanding the continuing adaptations and functions of Indian cultural roles and ideals and reviewing their place in recent social, economic, political, and religious developments.

**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.

**[IS] 471/871. Food and Human Evolution** (3 cr) Prereq: 12 hrs anthropology and permission.

Behavior, diet, and nutrition throughout the span of human evolution, focusing on topics related to human food procurement and food production in both past and present societies throughout the world. Includes food acquisition and processing technology; food storage; synergistic relationships between nutrition, health, and demography; exposure to toxins, anti-nutrients, and parasites; foods as medicine and drugs; food taboos and prohibitions; food and socioeconomic status; famine; and applied nutrition. Archaeological and cross-cultural cases involving human diet and nutrition examined and explained within an evolutionary ecological framework.

**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** (3 cr) Prereq: 12 hrs anthropology.

Integrative study of human adaptive systems and their ecological contexts. Emphasis on examination of the dynamic interrelationships between subsistence, technology, social behavior, human demography, and ecological variability.

**474/874. Applied and Development Anthropology** (3 cr)  
 Prereq: 12 hrs anthropology.

Analysis of the efforts by anthropologists and other trained specialists to influence the process of development and socio-economic change in the modern world.

**475/875. Primitive Technology** (3 cr) Prereq: 12 hrs anthropology.

Survey of the major technologies and industrial complexes of the prehistoric and primitive worlds. Through lectures, experiments, and examination of artifacts, students gain familiarity with the ways preindustrial people have manipulated the environment. Emphasis on developing skills necessary to analyze technology within its cultural setting.

**[IS] 476/876. Human Rights, Environment, and Development** (3 cr) Prereq: 12 hrs anthropology and permission.

Examination of human rights from an anthropological perspective. Assesses an array of issues that are of significance in the area of international human rights, development, and the environment, paying specific attention to concerns such as 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. Emphasis on rights to food, culture, development, and a healthy ecosystem.

**[IS] 477/877. Hunters-Gatherers** (3 cr) Prereq: 12 hrs anthropology and permission.  
 Survey of hunter-gatherer society with emphasis on ecological and social adaptations. Acquaints student with the literature on hunters-gatherers and their important role in human history and evolution.

Refer to the Graduate Bulletin for 900-level courses.

## Prehistory

**[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 reviews archaeological data from specific regions, e.g. Near East, Far East, Mediterranean, Europe, Mesoamerica, Peru, etc.

**[IS] 432/832. Archaeological Method and Theory** (3 cr) Prereq: 12 hrs anthropology and permission.  
 Using a reading, lecture, and seminar format, examines the concepts and methodology archaeologists use to obtain information and draw conclusions from the archaeological record. Recent and current theoretical issues emphasized.

**433/833. North American Archaeology** (3 cr) Prereq: 12 hrs anthropology.  
 An areal survey of North American archaeology including methodology, history, and current trends of research. North American prehistory reviewed from earliest occupations to the contact period.

**434/834. An Introduction to Plains Archaeology** (3 cr) Prereq: 12 hrs anthropology.  
 Introduction to the history of excavation, the development of cultural sequences, and the evolution of taxonomic concepts within the Plains area of North America.

**435/835. Introduction to Conservation Archaeology** (3 cr) Prereq: ANTH 232 or permission.  
 Introduction to the nature and purpose of historic preservation; it pertains to resource management and archaeological research. Emphasis on 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.

**438/838. Topics in Old World Prehistory** (CLAS 438/838) (3 cr) Prereq: 12 hrs anthropology.  
 Offers advanced archaeology students in-depth exposure to selected topics drawn from the wide breadth of Old World prehistory. Through lectures, seminar discussions, and student presentations, the class reviews archaeological data relevant to selected theoretical or topical problems.

**[IS] 439/839. Archaeology of Preindustrial Civilizations** (3 cr) Prereq: 12 hrs anthropology.  
 Examines the development and organizational variability of past preindustrial civilizations. Emphasis on ideas and theories about state formation and their evaluation through use of the archaeological record. Students exposed 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.

**[IS] 484/884. Quantitative Methods in Anthropology** (3 cr) Prereq: STAT 180 or equivalent, 12 hrs anthropology and permission.  
 Introduces collection, management and analysis of quantitative anthropological data. Through exercises and a final paper, both methods of exploratory and confirmatory data analysis reviewed. Emphasis placed on computer-assisted analysis.

Refer to the Graduate Bulletin for 900-level courses.

## Biological Anthropology

**442/842. Advanced Physical Anthropology** (3 cr)  
 Elementary anthropometry; the anthropology of the individual; methods and results in physical anthropology.

**443/843. Human Osteology** (3 cr) Prereq: 12 hrs anthropology.  
 Introduction to the anatomy and morphology of human bone, with stress placed on recognition of individual bones from fragments commonly found in archaeological contexts, as well as identification of the deceased individual with respect to age, sex, race, stature, pathology, anomaly, variation, population comparison.

**446/846. Palynology** (GEOL 446/846) (3 cr) Prereq: 12 hrs anthropology.

Comprehensive treatment of pollen and spore morphology, taxonomy, and pollination ecology. Pollen and spores is 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. Lab focuses on techniques for pollen recovery from modern and ancient materials.

Refer to the Graduate Bulletin for 900-level courses.

## Laboratory and Field Training

**280. Fieldwork** (1-6 cr, repeatable, only 6 cr allowed toward major) Prereq: Permission.  
 By participation in research projects students learn basic field techniques and the relationship between research design and execution.

**281. Laboratory Work in Archaeology** (1-6 cr, max 24) Prereq: Permission. *Only 3 hours of ANTH 281 is allowed towards the ANTH major.*  
 Practical experience in the preparation and manipulation of archaeological materials. Experience gained through participation in faculty-guided laboratory projects.

**480/880. Advanced Fieldwork** (1-6 cr, max 24) Prereq: ANTH 280 or equivalent. Credit towards the ANTH major cannot be earned in both ANTH 280 and 480.  
 Further practical experience in field research.

**481/881. Advanced Laboratory Work** (1-6 cr) Prereq: Permission. *Only 3 credit hours allowed towards the major in anthropology. This course is open only to advanced students wishing to complete a research project they have developed with anthropology faculty guidance.*

**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.

**484/884. Quantitative Methods in Anthropology** (3 cr) Prereq: STAT 180 or equivalent, 12 hrs anthropology and permission.  
 Introduces collection, management and analysis of quantitative anthropological data. Through exercises and a final paper, both methods of exploratory and confirmatory data analysis are reviewed. Emphasis on computer-assisted analysis.

## 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) Prereq: 12 hrs anthropology.  
 Origins and developments of anthropological theory, method, and thought; the historical growth of the discipline focusing on schools of thought from the Enlightenment through the contemporary period.

**[IS] 478/878. Pro-seminar in Latin American Studies** (EDPS, GEOG, HIST, MODL, POLS, SOCI 478/878) (3-6 cr, max 6) Prereq: Junior standing and permission.  
 An interdisciplinary analysis of the mechanics and consequences of cultural continuity and social change in Latin America.

**479/879. Pro-seminar in International Relations I** (AECN \*467; ECON, POLS, SOCI 466/866; GEOG 448/848; HIST 479/879) (3 cr) Prereq: Senior standing and 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. *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.

**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.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Art and Art History

### (Minor Only)

#### Studio Minor

**Plan A:** 18 hours—DRAW 101; DESN 111; 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 hours must be in courses numbered above 299.

**Plan B:** 12 hours of art history including AHIS 101 and 102.

## Asian Studies

### (Minor only)

**Director:** Professor Andrew Wedeman, 528 Oldfather Hall

**Chief Adviser:** Robert Stoddard (geography)

**Faculty:** Asato (modern languages), Banks (art history), Bleed (anthropology), N. Cheng (modern languages and literatures), Coble (history), Fuess (economics), Guenter (architecture), Knippling (English), Nemeth (educational psychology), Rapkin (political science), Schmidt (health and human performance), Stoddard (geography), 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  
CHIN 101/102. Beginning Chinese  
CHIN 201/202. Second-Year Chinese  
CLAS 300D. Beginning Sanskrit  
CLAS 387. Sanskrit Literature in Translation  
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  
HHPT 205. Asian Martial Culture  
HIST 181. Intro to East Asian Civilization  
HIST 281. Traditional East Asia  
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 384. History of Modern 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  
POLS 274. Developmental Politics in East Asia  
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:** Robert V. Klucas, N200 Beadle Center  
**Professors:** Chollet, Grotjen, Klucas, Knoche,

Markwell, Nickerson, Parkhurst, Ragsdale, Schwartzbach, Song, Spreitzer, Stanley, Stezowski, Weeks, Wood

**Associate Professors:** Banerjee, Griep, Grotjen, Price, Staswick

**Assistant Professors:** Allison, Gladyshev, Miner

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 in biochemistry and for professional careers in medicine, dentistry, veterinary medicine, and health-related fields.

**Pass/No Pass.** Students majoring in biochemistry may not take biological chemistry major courses 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	9
BIOS 101, 101L, 201, 301, 312, 314	16
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, 107	10-15
PHYS/ASTR 141, 142	10
Comprehensive Education Requirements (see college requirements)	27-43

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 301 (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 undergraduate adviser will inform students of the scheduling and format of the interview.

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 nonrefundable 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.

**[ES] 221. Introduction to Biochemistry** (3 cr I) Lec 3. Prereq: CHEM 110 and either BIOS 101 and 101L or 104H. *Not open to students with credits in organic chemistry such as CHEM 251 or 261 (see BIOC 321). The course is designed for students in the applied biological sciences and is not suitable for pre-professional students.*

Brief introduction to the structure and functional groups of organic compounds and their reactions related to living systems (25 percent), followed by elementary biochemical (75 percent). Biochemical topics include the structures and functions of the major classes of compounds found in living organisms, primary metabolic pathways, photosynthesis and biochemistry of genetics.

**221L. Laboratory for Introduction to Biochemistry** (1 cr) Prereq: Parallel BIOC 221.

**321. Elements of Biochemistry** (3 cr) Lec 3. Prereq: CHEM 251 and either BIOS 101 and 101L or 104H. *Is not suitable for premedicine or graduate study preparation or for biochemistry majors.*

A one-semester, terminal course meeting the requirements for many majors in applied biological science areas. Includes the 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.

**428/828. Radioisotopic Methods** (BIOS 428/828) (2 cr I) Lec 2, lab and quiz 3. Prereq: CHEM 106 or 110, PHYS/ASTR 142, and MATH 101 (106 recommended), or permission. *With permission by the instructor, the lab may be waived and the course taken for 2 cr.*

Theoretical aspects and practical applications of radiotracer methodology in biochemical, biological, and agricultural research.

**431/831. Biochemistry I** (CHEM, BIOS 431/831) (3 cr I, II, III) Lec 3. Prereq: CHEM 252 or 262. *Completion of BIOC 432/832 following this course is recommended. Suitable for biochemistry study in preprofessional and graduate programs.*

First course of a two-semester, comprehensive biochemistry course sequence. Includes the structure and function of proteins, nucleic acids and carbohydrates; nature of enzymes; major metabolic pathways; and biochemical aspects of molecular biology.

**432/832. Biochemistry II** (CHEM, BIOS 432/832) (3 cr II) Lec 3. Prereq: BIOC 431/831. *Completion of BIOC 431/831 and 432/832 provides comprehensive coverage of topics in modern biochemistry. Suitable for study in preprofessional and graduate programs.*

Continuation of BIOC 431/831. Includes membrane structure, lipid metabolism, photosynthesis, biosynthesis of all the major constituents of cells and biochemistry of genetic phenomena.

**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 or permission.

Biochemical metabolism unique to plants. Biochemical mechanisms behind physiological processes discussed in plant or crop physiology. Relationships of topics previously acquired in general biochemistry to biochemical processes unique to plants.

**436/836. Biophysical Chemistry** (CHEM, BIOS 436/836) (3 cr II) Lec 3. Prereq: One semester of physical chemistry or permission.

Introduction to X-ray diffraction and protein structure. Absorption spectroscopy of biomolecules, linear and circular dichroic spectroscopy of proteins and nucleic acids. Fluorescence probes, membrane dynamics, NMR, EPR, and resonance Raman spectroscopy applied to biological systems. Energetics, enzyme kinetics, relaxation kinetics, allosteric systems, and hydrodynamics.

**437/837. Research Techniques in Biochemistry** (BIOS 437/837) (4 cr II) Lec 1, lab 9. Prereq: CHEM 116 or 211 and BIOC 433/833, or permission.

Practical applications of biochemical methodology to studies in the life sciences. Hands-on experience with quantitation by spectrophotometry and spectrofluorometry, 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. For advanced undergraduate and beginning graduate students who plan a career in laboratory work within the life sciences.

**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** (BIOS 498) (1-6 cr I, II, III)

Prereq: Permission.

Research on a specific biochemical project under the supervision of a biochemistry faculty member.

**499H. Honors Thesis** (1-6 cr 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 III) Lec 3. Prereq: AGRO 315 or BIOS 301; BIOC 831 or permission.

**\*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. Metals in Biochemistry** (CHEM \*848) (3 cr) Prereq: 3 hrs biochemistry and 3 hrs inorganic chemistry.

**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: T. Jack Morris**, 348 Manter Hall

**Vice Director: Brent B. Nickol**, 348 Manter Hall

**Professors:** Ballinger, Dickman, Estes, Gibson,

Janovy, Joern, Johnsgard, Kamil, Kaul, Keeler, Louda, MacKenzie, Morris, Nickerson, Nickol, Pardy, Rosowski, Schwartzbach, Steadman, Van Etten, Vidaver, Watkins, Wood, Wylie

**Associate Professors:** Basolo, Blum, Boohar, Chia, Christensen, Elthon, French, Fritz, Gardner, Jensen, Lane, Martin, Mitra, Osterman, Partridge, Powers, Veomett, Yuen, Zera

**Assistant Professors:** Atkin, Bachman, Basolo, Cerutti, Harshman, Knops, Orti, Pilson, Stack, Stenger, Wagner

**Lecturers:** Glider, Woodman

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 arts, master of science, and doctor of philosophy are offered. For details, see the *Graduate Studies Bulletin*.

## Requirements for the Major in Biological Sciences

The major must include 18 hours in the five core courses (BIOS 201, 204, 301, 302 and 305) and 18 additional credit hours in biological sciences, of which 14 must be at the 200 level or

above, with at least 3 hours at the 400 level. Most students should enter the core sequence directly with either BIOS 201 or 204. Students concerned about their preparation for college-level biology should start with BIOS 101 and 101L. Please consult your adviser if in doubt.

No biological science course (except BIOS 310) used to fulfill the 36 hours for the major (or 18 hours in the minor) may be taken pass/no pass (P/N) and no more than 8 hours may be from courses whose home department is other than biological sciences (see cross-listed courses).

No minor is required, but biological sciences majors must complete the following ancillary courses in addition to the 36 hours in the major: one year of physics at the 141-142 level or at the 200 level; two years of chemistry including one semester of organic with lab and one semester of biochemistry at the 300 level or above (BIOC 321 or 431); MATH 106, and either MATH 107 or a course in statistics or CSCE 155. 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.** In order to assist the department in evaluating the effectiveness of its program, selected majors will be required in their senior year:

1. To complete the Educational Testing Service Major Field Test in Biology.
2. To participate in an exit interview with a faculty member to review the results of the exam.

The undergraduate adviser will inform students selected to participate 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 Biological Sciences

- 18 hours, comprising the five-course core: BIOS 201, 204, 301, 302, and 305

## Courses of Instruction (BIOS)

### Biological Sciences Courses

**[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) Prereq: Parallel registration in BIOS 101. Laboratory exercises and experiments that complement material covered in BIOS 101.

**104H. Introductory Honors Biology I** (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, lab and field 3. Prereq: BIOS 101 and 101L or equivalent.

Introduction to the plant kingdom and to plants as biological organisms; structure and function of cells, tissues, and organs with emphasis on seed plants, together with the important processes and concepts of classification, inheritance, evolution, and ecology.

**111. The Biology of Microorganisms** (4 cr) 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) 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.

**112L. Introduction to Zoology Lab** (1 cr) Prereq: BIOS 101 and 101L, or equivalent. *Parallel registration in BIOS 112 required.* Laboratory exercises and experiments that complement material covered in BIOS 112.

#### 114. Nursing Anatomy

(5 cr) Lec 2, lab 6. Survey of the major organ systems of the human body including skeleton, major muscle systems, nervous system, digestive, circulatory, reproductive, excretory, and endocrine systems. Emphasis on direct observation of human anatomy.

**150. Introduction to Dentistry and Dental Hygiene** (1 cr) Interest in dentistry, dental hygiene, or other health professions as a career. Terminology, ethics, anatomy, dental specialties and clinical experience.

**189H. University Honors Seminar** (3 cr) Prereq: Admission to the University Honors Program or by invitation. *A University Honors Seminar 189H is required of all students in the University Honors Program.*

Topics vary.

**201. Cell Structure and Function** (4 cr) Prereq: High school chemistry or CHEM 109; or parallel CHEM 109.

Completion of CHEM 109 recommended. Chemical principles of life, biological molecules, metabolism, organelles, the tools of cell biology including microscopy and the properties of light, isotopes, and antibodies.

[IS] **202. Global Ecology: Concepts in Environmental Biology** (3 cr) Lec 2, rct 2. Prereq: GEOG 181, NRES 100 or permission. *BIOS 202 will not count towards a major in biological sciences.*

Basic concepts underlying the structure and function of ecological systems, including comparison of ecosystem types on a global basis with emphasis on problems of the environment of humans.

[ES][IS] **203. Bioethics** (3 cr) Prereq: BIOS 101 and 101L and sophomore standing; or permission. *BIOS 203 will not count towards a major in biological sciences. Does not apply to requirements for the biological sciences major or minor.*

Relevance of biological science to society and its environment examined through readings, guest lecturers, and discussion.

**204. Biodiversity** (4 cr) Lec 3, lab 3. *BIOS 204 is intended for biology majors and minors.*

Nature of diversity among living organisms, including morphology of numerous groups of organisms, taxonomic schemes and their underlying assumptions, phyletics, biogeography, and ecological distribution of species.

[ES] **213. Human Physiology** (3 cr) Lec 3. Prereq: BIOS 101 and 101L; or 201; or equivalent. Parallel registration in BIOS 213L required.

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) Prereq: BIOS 101 and 101L; or 201; or equivalent. Parallel registration in BIOS 213 required.

Laboratory exercises and experiments that complement material covered in BIOS 213.

**220x. Introductory Ecology** (3 cr) Lec 3. Prereq: 8 hrs biological sciences. *Offered by independent study only. There is no numerical in-residence parallel.*

Individual organism and its interactions with the environment. The nature of the environment and its effects on growth and development. The ecosystem as a pattern of energy flow.

[ES][IS] **230. Ecology of the Great Plains** (3 cr) Lec 3. *Not available for credit to students who have previously taken BIOS 320 (220). Designed for students with no biology background: biology majors are discouraged from enrolling.*

Brief introduction to ecological principles, description of organisms and climate of the Great Plains region and discussion of the impact of humans and their technology on the organisms and the environment of the Great Plains.

**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) Lab 1-3. Prereq: 4 hours biological sciences and permission. *Opportunity to participate in work in a research laboratory in order to gain some insight into the philosophy and methods of original research. Student must contact staff member in the School of Biological Sciences with whom he/she wishes to work and reach agreement on project to be carried out and credit to be given.*

[ES] **301. General Genetics** (4 cr) Lec 3, rct 1. Prereq: BIOS 101 and 101L, or 201.

Inheritance and regulation of genes in animals, plants and bacteria with emphasis on model genetic organisms. Genes examined from a classical, molecular and population viewpoint.

[IS] **302. Ecology and Evolution** (4 cr) Lec 3, lab 3. Prereq: BIOS 301. BIOS 204 recommended.

Introduction to the principles and processes of ecology and evolution including: structure and dynamics of populations and communities, biotic and abiotic interactions, mechanisms of evolutionary change, natural selection, adaptation, and speciation.

**305. Genetics, Molecular and Cellular Biology Laboratory** (2 cr) Prereq: BIOS 201; 301 prereq or concurrent.

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.

**306. Survey in Cell and Molecular Biology Research Techniques** (4 cr) Prereq: 12 hrs of biological sciences and permission.

Intensive hands-on 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. *P/N 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 general 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 of: BIOS 312 or AGRO 360.*

Structure of microbial cells, their nutrition and growth genetics, metabolic and biosynthetic activity, and host-parasite relationships.

**313. Microbiology Laboratory** (2 cr) Lab 6. Prereq: One year biological sciences, one year general chemistry, one semester organic chemistry or one semester biochemistry; and BIOS 312 or parallel registration. One semester organic chemistry and one semester biochemistry recommended. Parallel registration in BIOS 314 recommended. *BIOS 312 is recommended for students interested in microbiology.*

**314. Microbiology Laboratory** (1 cr) Lab 3. Prereq: One year biological sciences, one year general chemistry, one semester organic chemistry or one semester biochemistry; and BIOS 312 or parallel registration. One semester organic chemistry and one semester biochemistry recommended.

Parallel registration in BIOS 313 recommended. *BIOS 314 is open to College of Agricultural Sciences and Natural Resources and College of Human Resources and Family Sciences students, dental hygiene, and other non-microbiology majors.*

**315. Vertebrate Embryology** (4 cr) Lec 3, lab 1. Prereq: 12 hrs biological sciences; 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.

**320. Principles of Ecology** (3 cr) Lec 3. Prereq: 8 hrs biological sciences and MATH 101 or 103; MATH 104 or 106 recommended. *Lecture only, laboratory recommended. (Previously listed as BIOS 220, Introductory Ecology.)*

Structure and dynamics of populations and communities of organisms in relation to each other and to their environments. Emphasis on concepts describing how populations of plants and animals grow and interact within communities. Includes introduction to the quantitative description of ecological processes. Application of ecological principles to natural resource management and environmental problems.

**322. Ecology Laboratory** (1 cr) Lab 4. Prereq: Same as for BIOS 320. Prereq or parallel: BIOS 320. *May also be offered at Cedar Point Biological Station.*

Field and laboratory experiments in ecology including food webs, competition, vegetation analysis, and life tables. Field trips to local ecosystems.

**325. Introductory Plant Physiology** (4 cr) Lec 3, lab 3. Prereq: BIOC 221 or chemistry through organic or higher level course in cell biology. Some botany strongly recommended. Proof of prerequisites required.

[IS] **374. Economic Botany** (4 cr) Lec 3, lab 3. Prereq: 12 hrs biological sciences including BIOS 109 or 204.

Major groups of economically important plants including food crops, wood, medicinal plants, ornamentals, including evolution, cultivation, processing and uses of the plant.

[IS] **381. Invertebrate Zoology** (4 cr) Lec 3, lab 3. Prereq: BIOS 112, or 204, or permission.

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** (4 cr) Lec 3, lab 3. Prereq: BIOS 101, 101L, and 112; or 204.

Morphology, natural history, and phylogenetic relationships of vertebrates and other chordates.

**388. Comparative Anatomy of the Vertebrates** (4 cr) Lec 3, assigned readings and lab 4. Prereq: BIOS 112 or 104, 105.

Evolutionary development and comparative structure of the chordate organ systems, including dissections of the dogfish, salamander, and cat.

**394. Seminar in Behavioral Biology** (PSYC 394) (1 cr) Prereq: PSYC/BIOS 373 and permission. *May be repeated for credit under different topics.*

Critical reading and discussion of literature on topics dealing with the biological bases of behavior.

**395. Internship** (1-6 cr) *Specifics of requirements to be arranged with supervising faculty member. A maximum of 6 credits total may be taken by a student in BIOS 395.*

Combination of work outside the University and academic work in biological sciences arranged through the Internship and Cooperative Education 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.

**401/801. Advanced Cell Structure and Function** (3 cr) Prereq: 12 hrs biological sciences including BIOS 201; 1 sem organic chemistry, 2 sem organic chemistry recommended.

Extension of BIOS 201 providing a more in-depth coverage of the design, execution and evaluation of scientific experiments that significantly advance our knowledge of cell and molecular biology.

**407/807. Biology of Cells and Organelles** (4 cr) Prereq: BIOS 201 and 301, or permission.

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 201; BIOS 301. Three sems high school algebra or equivalent recommended.

Genetic basis of human variation, with emphasis on methods of applying genetic principles to human kind. 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** (4 cr) Lec 3, rct 1.

Prereq: 12 hrs biological sciences.

Survey of topics in development biology; recitation consists of seminar presentation of classic papers in developmental biology.

**418/818. Advanced Genetics** (3 cr) Prereq: 12 hrs biological sciences including BIOS 301 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) Prereq: 12 hrs biological sciences including BIOS 301 or equivalent. BIOS 418 recommended. Molecular basis of genetics. Includes gene structure and regulation, transposable elements, chromosome structure, DNA replication, and repair mechanisms and recombination.

**422/822. Comparative Physiology** (3 cr) 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 301, or permission. 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.

**430/830. Molecular Phylogenetics** (3 cr) Lec 3. Prereq: BIOS 201, 204 and 301; BIOS 302 or parallel; or equivalent. Principles, methodology, and application of molecular data to answer questions in systematics, ecology, and evolutionary biology. Includes selected topics in molecular evolution and population genetics. Molecular tools covered: protein electrophoresis, restriction analyses, polymerase chain reaction, DNA sequencing, and microsatellite genotyping. Analytical tools covered: project design, phylogenetic analysis, parentage, and forensics.

**436/836. Quaternary Ecology and Climate** (GEOL 423/823) (3 cr) Lec 3. Prereq: 12 hrs geology or biological sciences. For course description, see GEOL 423/823.

**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.

**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) Lec. Prereq: BIOS 301 and 1 sem organic chemistry; BIOS 201 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. Prereq: BIOS 301 and 305. A research project designed to give hands-on experience with a variety of molecular biology techniques.

**453/853. Advanced Cell Biology Laboratory** (2 cr) Prereq: BIOS 305; BIOS 401/801 or concurrently; or permission. 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. Population and Community Ecology** (NRES 454/854) (4 cr) Lec 3, lab 4. Prereq: BIOS 302 or 320 or equivalent. *May also be offered at Cedar Point Biological Station.* Nature and characteristics of populations and communities. Interactions within and between populations and community structure and dynamics. Examples from plants and animals.

**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 or senior standing in biological sciences, MATH 106 or 107 or permission. Biological systems, from molecules to ecosystems, are analyzed using mathematical techniques. The strengths and weaknesses of mathematical approaches to biological questions are emphasized. Topics: 1) brief review of college level math, 2) introduction to modeling, 3) oscillating systems in biology, 4) randomness in biology, 5) review of historically important and currently popular models in biology.

[IS] **462/862. Animal Behavior** (3 cr) Prereq: 12 hrs biological sciences or permission. 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, or permission. Advanced course on 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 302 or equivalent. *Extensive field work is required.* Structure, function, and distribution of communities. Interaction of different species with their biotic and abiotic environment.

**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] **472/872. Evolution** (4 cr) Prereq: BIOS 301 and 302. In-depth examination of the principles and processes of micro- and macroevolution. Emphasis on 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.

**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) 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.

**493/893. Herpetology** (4 cr) Prereq: BIOS 386 and permission; BIOS 388 recommended. *May also be offered at Cedar Point Biological Station.* Fossil and living amphibians and reptiles. Emphasis on anatomy, classification, ecology, and evolution.

**494/894. Ornithology** (3 cr) Prereq: 12 hrs biological sciences, optional lab (BIOS 494L/894L) for 1 cr hr available by permission. *May also be offered at Cedar Point Biological Station.* Review of avian biology, with emphasis on functional morphology, evolutionary relationships, and breeding biology.

**494L/894L. Ornithology Lab** (1 cr) Prereq: Parallel BIOS 494/894 and permission.

**476/876. Mammalogy** (NRES 476/876) (3 cr) Prereq: 12 hrs biological sciences including BIOS 386, or 12 hrs natural resources including NRES 311; or permission. *May also be offered at Cedar Point Biological Station.* Survey of mammals of the world, with emphasis on mammals of Nebraska and the Great Plains.

**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) Prereq: 12 hrs biological sciences and permission. *A maximum of 4 credit hours may be counted towards the undergraduate biological sciences major.*

Independent study and laboratory or field investigation of a specific problem under the supervision of a staff member.

**803. Microevolution** (1 cr)

**804. Macroevolution** (1 cr)

**809. Professionalism** (1 cr) *P/N only.*

**813. Animal Physiology I** (ASCI, VBMS \*845) (4 cr) Lec 3, lab 3. Prereq: CHEM 251; BIOS 112 or ASCI 240.

**814. Animal Physiology II** (ASCI, VBMS \*846) (4 cr) Lec 3, lab 3. Prereq: ASCI \*845 or permission.

**816. Computer-aided Sequence Analysis Primer** (VBMS \*818) (2 cr) Prereq: BIOC 831 or BIOS 801 or 820.

**821. Behavior Biology** (1 cr)

**824. Fundamentals of Ecological and Evolutionary Physiology** (1 cr) Lec 1. Prereq: Permission.

**826. Population Biology** (1 cr)

**827. Community Ecology** (1 cr)

**\*864A and B. Principles of Plant Pathology** (PLPT 864) (3 cr each) Lec/dem. Prereq: BIOS/PLPT 269 and biochemistry or permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Cross Listed Courses (taught by other departments)

[ES][IS] **108. Insects, Science and Society** (ENTO 108) (3 cr) Lec 3. *This course will not count towards the biological sciences major, nor will it fulfill the natural science requirement in the College of Arts and Sciences.*

For course description, see ENTO 108.

[ES] **115. Insect Biology** (ENTO 115) (2 cr I, II) Lec 2. For course description, see ENTO 115.

**116. Insect Identification** (ENTO 116) (1 cr I, II) For course description, see ENTO 116.

**160. Introduction to Clinical Laboratory Science** (1 cr) Prereq: Interest in clinical laboratory science/ medical technology as a career. 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.

**300. Toxins in the Environment** (ENTO, NRES 300) (2 cr II) Prereq: One semester biology and one semester of chemistry. *Offered spring semester of odd-numbered calendar years.* For course description, see ENTO 300.

**308/808. Vertebrate Histology** (VBMS 308/808) (3 cr II) Lec 2, lab 2. Prereq: BIOS 101 and 101L and 112, and either BIOC 221 or CHEM 251, or permission. BIOS 213 or ASCI 240, and BIOS 315 recommended for undergraduate enrollment, required for graduate enrollment.  
For course description, see VBMS 308/808.

**369. Introductory Plant Pathology** (PLPT 369) (3 cr) Lec/dem 3. Prereq: BIOS 101 and 101L, or 109. For course description, see PLPT 369.

[ES] **373. Biopsychology** (PSYC 373) (3 cr) Prereq: PSYC 181 and BIOS 101/101L or their equivalents. For course description, see PSYC 373.

**406/806. Insect Ecology** (ENTO 406/806) (3 cr) Lec 3. Prereq: BIOS 320 and 322. For course description, see ENTO 406/806.

**419/819. Behavioral Neuroscience** (PSYC 465/865) (2-3 cr) Prereq: 12 hrs psychology or 12 hrs biological sciences, including PSYC 373 or BIOS 373. For course description, see PSYC 465/865.

**428/828. Radioisotopic Methods** (BIOC 428/828) (2 cr I) Lec 2, lab and quiz 3. Prereq: CHEM 106 or 110, PHYS 142, and MATH 101 (106 recommended), or permission. For course description, see BIOC 428/828.

**428L/828L. Radioisotopic Methods Lab** (BIOS 428L/828L) (1 cr) Prereq: Parallel BIOC 428/828.

**431/831. Biochemistry I** (BIOC, CHEM 431/831) (3 cr I, II, III) Lec 3. Prereq: CHEM 252 or 262. For course description, see BIOC 431/831.

**432/832. Biochemistry** (BIOC, CHEM 432/832) (3-5 cr II) 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 or permission. For course description, see BIOC 434/834.

**437/837. Research Techniques in Biochemistry** (BIOC 437/837) (4 cr II) Lec 1, lab 9. Prereq: CHEM 116 or 221 and BIOC 433/833 or permission. For course description, see BIOC 437/837.

**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.

**450/850. Biology of Wildlife Populations** (NRES 450/850) (4 cr) Prereq: BIOS 320 or permission. For course description, see NRES 450/850.

**452/852. Introduction to Molecular Virology and Viral Pathogenesis** (VBMS 452/852) (3 cr I) Lec/disc 3. Prereq: BIOS 443/843 or permission. For course description, see VBMS 452/852.

**458. Wetlands** (NRES 468/868, WATS 468) (4 cr II) Lec 4. Prereq: 12 hrs biological sciences; BIOS 320; CHEM 109 and 110. *Offered even-numbered calendar years.* For course description, see NRES 468/868.

**459/859. Limnology** (NRES 459/859, WATS 459) (4 cr II) Lec 3, lab 4. Prereq: 12 hrs biological sciences, including introductory ecology; 2 sems chemistry. For course description, see NRES 459/859.

**461/861. Marine Ecology and Paleoecology** (GEOL 439/839) (2-3 cr) Lec 2, lab 0-3. For course description, see GEOL 439/839.

**464/864. Fisheries Biology** (NRES 464/864) (3 cr) Prereq: BIOS 491/891 or equivalent. For course description, see NRES 464/864.

**464A/864A. Principles of Plant Pathology** (PLPT 464A/864A) (3 cr II) Lec/dem 2. Prereq: PLPT 369 or equivalent and introduction to biochemistry or permission, prerequisite cannot be waived for undergraduates. For course description, see PLPT 464A/864A.

**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** (HHPT 484/884) (3 cr) Prereq: 12 hrs biological sciences including BIOS 213 or equivalent. For course description, see HHPT 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.

**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 301; BIOC 831 or permission.

**\*811. Plant Tissue Culture** (NRES, HORT 811) (4 cr II) Lec 2, lab 4. Prereq: BIOS 109, 325 (includes CHEM 109, 110, BIOC 221), or equivalents, or permission.

**813. Physiology of Domestic Animals I** (ASCI, VBMS 845) (4 cr I) Lec 3, lab/rec 3. Prereq: CHEM 251 and BIOS 112 or ASCI 241.

**814. Physiology of Domestic Animals II** (ASCI, VBMS 846) (4 cr II) Lec 3, lab/rec 3. Prereq: VBMS 845 or permission.

**816. Computer-aided Sequence Analysis Primer** (VBMS 818) (1 cr III) Prereq: BIOC 831 or BIOS 350 or 820. *No computer literacy needed.*

**817. Plant-Water Relations** (AGRO 407/807) (3 cr) Lec 3. Prereq: BIOS 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: BIOC 221 or CHEM 251; BIOS 325; or permission. *Offered fall semester of even-numbered calendar year.*

**860. Advanced Limnology** (NRES 866) (3 cr I) Lec 3. Prereq: NRES 459/859 or equivalent.

**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** (HORT 879) (4 cr) Lec 3, rec/lab 3. Prereq: BIOS 325 and 478/878; CHEM 252 or BIOS 431, or permission.

**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.

## Business

### (Minor only)

**Chief Adviser:** Anne Kopera, 107 Oldfather Hall

### Minor for General Business (Plan A only)

The College of Business Administration has joined with the College of Arts and Sciences and the Hixson-Lied College of Fine and Performing Arts to offer a minor in general business to students in these latter two colleges. As a prerequisite to the minor, students are required to complete 12 credit hours of **foundation courses** in math, statistics and economics and to pass MNGT 198D. Students in the College of Arts and Sciences and in the Hixson-Lied College of Fine and Performing Arts will find that some of the foundation courses will apply toward their comprehensive education requirements. After completing the required foundation courses, students complete 19-21 credit hours in **business core courses** which will provide the 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.

**Pass/No Pass.** Not allowed for foundation courses or business core courses.

Required Foundation Courses	Hours
MATH 104* or 106* Calculus .....	3
ECON 215* or STAT 180* or 380* .....	3
ECON 211 and 212 Principles .....	6
MNGT 198D** .....	0
<b>Total 12</b>	

\* Equivalent courses may be substituted for these specific courses.

\*\* This examination is offered by the College of Business Administration through MNGT 198D, which is a 1 credit hour course. The credit, however, will not count toward the minor nor toward a degree.

Required Business Core Courses	Hours
ACCT 201 and 202 Principles (6 hrs).....	4-6
or ACCT 306 (4 hrs)	
FINA 361 .....	3
(Prereq ACCT 201 & ECON 211/212)	
MNGT 245 Quantitative Methods .....	3
(Prereq ECON 215*** & MNGT 198D)	
MNGT 331 Operations .....	3
(Prereq ECON 215 and MNGT 245)	
MNGT 360 Managing Behavior .....	3
MRKT 341 .....	3
(Prereq ECON 211/212)	
<b>Total 19-21</b>	
<b>Total Foundation and Core 31-33</b>	

\*\*\* STAT 180 or STAT 380 or equivalent courses may be substituted for the prerequisite of ECON 215.

## Chemistry

**Chair:** Lawrence Parkhurst, 551 Hamilton Hall

**Vice Chair:** Mark A. Griep

**Professors:** Carr, Day, Dussault, Eckhardt, George, Harbison, Jones, Kingsbury, Langell, Parkhurst, Rajca, Rieke, Smith, Song, Stezowski, Takacs, Wang

**Associate Professors:** Berkowitz, Di Magno, Griep, Hage, Price, Redepenning, Sturgeon, Zeng

**Assistant Professor:** Belot

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. The department also offers an integrated BS-MS program. A degree with a chemistry emphasis is available to students enrolled in the Environmental Studies program (see “Environmental Studies” on page 157).

**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, Option II, with a major in chemistry is:

	Hours
Chemistry .....	43-46 <sup>1</sup>
CHEM 113, 114, 116 (or 109, 110, 221), 261, 262, 263 (for 2 cr), 264 (for 2 cr), 481, 482, 484 (for 3 cr), 399 (for at least 2 cr); and at least two of the following course sequences:	
a) 421, 423 (for 2 cr); b) 441, 443 (for 2 cr); c) 431, 433 (for 2 cr)	
English Composition.....	6
Languages <sup>2</sup> .....	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 a freshman chemistry sequence (CHEM 109 and 110 or CHEM 113 and 114) plus CHEM 221 or 116 respectively plus an additional 21 hours of chemistry courses numbered 251 or above. The courses chosen must include a year sequence in organic chemistry, one semester of physical chemistry and two other courses, each with an accompanying laboratory course.

**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 complete the American Chemical Society test, to be administered in CHEM 482 or 421.
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 and 110 or CHEM 113 and 114) plus CHEM 221 or 116 respectively plus an additional 12 hours of chemistry excluding CHEM 131, 195, 396, 399, and 410.

**Plan B.** Requires a freshman chemistry sequence (CHEM 109 and 110 or CHEM 113 and 114) plus CHEM 221 or 116 respectively plus an additional 8 hours of chemistry excluding CHEM 131, 195, 396, 399, and 410.

**Laboratory Fee and Deposit.** Students who enroll in laboratory courses in the Department of Chemistry may be required to pay a small nonrefundable cash fee to defray the cost of materials and equipment used in the course and a deposit to cover the cost of replacing or repairing equipment that the student may damage in the laboratory. The unused portion of the deposit can be recovered within 60 days of the last day of classes for the semester or summer session in which the student was enrolled in the laboratory course.

**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)

[ES][IS] **105. Chemistry and the Citizen I** (4 cr) Lec 3, conf and lab 4. Prereq: 2 units high school mathematics including algebra and geometry. This course and CHEM 106 do not serve as prerequisites for any other course in chemistry. Credit towards the degree may be earned in only one: CHEM 105, 109, 111, 113, 131 or 195.

Survey of some principles of chemistry, stressing concepts and qualitative understanding rather than problem-solving and technical skills. Application of a core of concepts to chemical aspects of current social or economic situations.

[ES] **106. Chemistry and the Citizen II** (4 cr) Lec 3, rct and lab 4. Prereq: CHEM 105 or permission. This course will not serve as a prerequisite for any other chemistry course. Students wishing to take CHEM 251/252 or CHEM 263/264 should take the CHEM 109/110 or CHEM 113/114 general chemistry sequence.

Continuation of CHEM 105, providing a one semester introduction to organic and biochemical principles, with emphasis on the impact of these concepts to applications of societal importance.

[ES][IS] **109. General Chemistry I** (4 cr) Lec 3, lab and quiz 4. Prereq: 2 units high school mathematics including algebra and geometry. Credit toward the degree may be earned in only one of: CHEM 105, 109, 111, 113, 131 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.

[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 and quiz. Prereq: 3 units of high school mathematics including algebra and geometry and 1 unit each of high school physics and chemistry, or permission. Credit towards the degree may be earned in only one: CHEM 105, 109, 111, 113, 131 or 195. Not open to chemical engineering majors. One semester introduction to fundamentals of chemistry for engineering students.

[ES][IS] **113. Fundamental Chemistry I** (4 cr) Lec 3, lab and quiz 4. Prereq: 3 units of high school mathematics including algebra and geometry, 1 unit of high school chemistry, and 1 unit high school physics. Credit towards the degree may be earned in only one: CHEM 105, 109, 111, 113, 131 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.

**116. Quantitative Chemistry Laboratory** (2 cr) Conf and lab 8. Prereq: CHEM 113. Parallel: CHEM 114.

Elementary quantitative laboratory instruction in analytical methods and preparations including titrimetry, gravimetry, separations, and use of pH meter and spectrophotometer, qualitative chemical analysis. Designed for students (including chemistry and chemical engineering) who wish to take advanced laboratory instruction in such courses as CHEM 263, 264, 471/471, 472/872, 482/882, and 484/884.

[ES] **131. The Science of Food** (FDST, NUTR 131) (3 cr) Lec 3. Credit for the degree may be earned in only one: CHEM 105, 109, 111, 113, 131, or 195.

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, 131, or 195.

Interactive, hands-on 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.

1. Substitutions to or modifications of this program must be approved by the Department of Chemistry's Academic Planning Committee on the recommendation of the student's departmental academic adviser.
2. Because of the great reliance of some areas of chemistry on the ability to read German, it is strongly recommended that the study of German be used to fulfill the languages requirements. If it is not, at least one year of study of German ought to be taken.

**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.

**251. Organic Chemistry** (3 cr) Lec 3, quiz 1. Prereq: Any of the following courses with a minimum grade of C: CHEM 110 or 114. In addition, CHEM 116 or 221 is recommended. Pre- or coreq: CHEM 253 or permission. CHEM 251 and 252, and the labs 253 and 254, form a continuous basic course covering the important chemistry of carbon compounds with particular applications to the biological sciences, agriculture, and pre-professional programs including premedical and predental. Emphasizes basic principles.

**252. Organic Chemistry** (3 cr) Lec 3, quiz 1. Prereq: CHEM 251 and 253 or permission. Continuation of CHEM 251 emphasizing the chemistry of carbonyl compounds, aspects of aromatic chemistry, heterocycles, carbohydrates, and nitrogen compounds, with some emphasis on the organic compounds found in nature.

**253. Organic Chemistry Laboratory** (1 cr) Lab 3. Prereq: Any of the following with a grade of C or better: CHEM 110 or 114. In addition, CHEM 116 or 221 is recommended. Pre- or coreq: CHEM 251. *CHEM 253 shares a quiz section with CHEM 251 and normally accompanies it.* The basic techniques of organic chemistry are emphasized; structure identification; physical properties of compounds; molecular modeling; introduction to the spectroscopic characteristics of organic compounds.

**254. Organic Chemistry Laboratory** (1 cr) Lab 3. Prereq: CHEM 251, 253. Pre- or coreq: CHEM 252. *CHEM 254 shares a quiz section with CHEM 252 and normally accompanies it.* Expertise in the synthesis of representative organic compounds emphasized; qualitative analysis of organic compounds; naturally occurring compounds.

**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.

**[IS] 262. Organic Chemistry** (3 cr) Lec 3. Prereq: CHEM 261. Parallel: CHEM 264. Continuation of CHEM 261.

**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.

**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.

**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.

**264A. Organic Chemistry Laboratory** (1 cr) Lab 3. Prereq: CHEM 261 and 263A. Parallel: CHEM 262. Continuation of CHEM 263A.

**291H. Sophomore Honors 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. Sophomore Honors 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** (1-24 cr)

**399. Undergraduate Research in Chemistry** (1-24 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.

**412/812. Chemistry Applications of Laboratory Computers** (4 cr) Lec 3, lab 4. Prereq or parallel: CHEM 261 and permission. Introduction to the principles and applications of the digital computer in the chemistry laboratory for on-line data acquisition and experiment control. Programming, digital logic, and computer-experiment interfacing emphasized.

**[IS] 421/821. Analytical Chemistry** (3 cr) Lec 3. Prereq or parallel: CHEM 482/882, 484/884. CHEM 423/823 should be taken concurrently. *Credit may not be earned in both CHEM 421 and 427.*

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. Biochemistry I** (BIOC, BIOS 431/831) (3 cr I, II, III) Lec 3. Prereq: CHEM 252 or 262. For course description, see BIOC 431/831.

**432/832. Biochemistry II** (BIOC, BIOS 432/832) (3 cr II) Lec 3. Prereq: CHEM 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 431/831 or permission. For course description, see BIOC 434/834.

**436/836. Biophysical Chemistry** (BIOC 436/836) (3 cr II) Lec 3. Prereq: One semester of physical chemistry or permission. For course description, see BIOC 436/836.

**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.

**461/861. Advanced Organic Spectroscopy** (2 or 3 or 4 cr) Prereq: CHEM 252 and/or 254, or 262 and/or 264; or equivalent or permission. *CHEM 461/861 may be taken only once toward the degree.* Use of advanced spectroscopic techniques (e.g., NMR, ESR, IR and mass spectrometry) and molecular modeling in the elucidation of organic structure.

**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 CHEM 221 with a grade of C or better; 1 yr college physics; 1 yr calculus. 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** (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. *Students having credit in CHEM 471/871 may not receive credit in CHEM 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** (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.

**487/887. Spectroscopy and Scattering** (4 cr) Lec 4. Prereq: CHEM 482/882 or 885 or 972.

Quantitative treatment of the principal methods of electronic, optical and magnetic resonance spectroscopy as well as light and electron scattering.

**487L/887L. Introduction to Molecular Spectroscopy Laboratory** (1 cr) Lab 1. Prereq: CHEM 481/881 or 885. Parallel: CHEM 487/887. Optional lab work to accompany CHEM 487/887.

**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.

**810. Departmental Seminar in Chemistry** (1-5 cr) *Full-time graduate students must attend each semester in residence and may register for credit once each academic year. Undergraduate majors may enroll with permission.*

**\*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.

**827. Applied Analytical Instrumentation** (4 cr) Lec 2, lab 8. Prereq: CHEM 116 or 221 and 251 or equivalent. Chemistry majors in the BS program should take CHEM 421. *Credit may not be earned in both CHEM 427 and 421. Chemistry graduate students may not take 827 for credit.*

**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. Metals in Biochemistry** (BIOC \*848) (3 cr) Prereq: 3 hrs biochemistry and 3 hrs inorganic chemistry.

**\*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). Small-Scale Chemistry Activities for Secondary School Classrooms** (CURR \*869) (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.

## Civil Engineering

### (Minor only)

**Coordinator:** Anne Kopera, 107 Oldfather Hall

### Requirements for the Minor in Civil Engineering

**Plan B.** At least 16 hours of civil engineering courses.

## Classics and Religious Studies

**Chair:** Sidnie White Crawford, 236 Andrews Hall

**Professors:** Leinieks, Turner

**Associate Professors:** Adkin, S. Crawford, Hoff (art history), Ide (philosophy), Rinkevich, Winter

**Assistant Professors:** E. Athanassopoulos (anthropology), S. Burnett (history), V. Gorman (history)

**Senior Lecturers:** D. Crawford (philosophy)

**Lecturers:** R. Gorman (history)

The courses and majors in the Department of Classics and Religious Studies have been designed to meet the needs of three categories of students: those who wish to pursue the subject for general educational purposes; those who want to become high school Latin teachers; and those who plan to major and do graduate work in classics, Greek or Latin. The latter should major in either Greek or Latin and study both languages. Prospective Latin teachers should major in Latin and also study Greek. Any student who studies classics will acquire some of 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

The classics major offers a wide range of courses in the civilization and culture of the ancient Mediterranean world. It is an interdisciplinary major with a core of required courses, supplemented by electives from other programs. Depending on your chosen emphasis, this major is designed to provide you with an excellent background to pursue graduate work in classics, 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 study of classical antiquity trains you to organize large collections of diverse empirical data. Because the subjects of classical study are deeply informative of familiar western traditions, yet temporally and geographically alien to the contemporary student, this major is especially suited to sharpen your ability to recognize and respect otherness and diversity. It will help

develop your reflective powers and a sense of perspective on the wider human condition. You will be invited to think about familiar things in unfamiliar ways. The ability to work with ancient texts, languages and artifacts encourages the natural development of a disciplined and rigorous attention to detail, a respect for objectivity, and restraint from excess.

**Study Abroad.** Advanced undergraduates are encouraged to further their studies abroad through programs in Greece, Italy, or Israel. 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 Hebrew Union College in Jerusalem.

Also, UNL faculty frequently offer archaeological study tours to Greece and Italy during the summers.

### Requirements for the Major in Classics

The major requires 30 hours of courses distributed as described below, plus the first year of either Greek, Hebrew, or Latin, selected in consultation with the adviser, and depending on the chosen area of emphasis. This requirement may be applied to the college language requirement. A minor is required and may be any minor approved by the College.

#### 1. Core Courses (15 hours): required of all students in the major program.

- AHIS 211. Classical Art & Archaeology (3 cr)
- CLAS 180. Classical Mythology (3 cr)
- CLAS 281. The World of Classical Greece (ENGL 240A) or CLAS 282. The World of Classical Rome (ENGL 240B) (3 cr)
- HIST 210. Ancient Greece & Rome 500 BC-335 AD (3 cr)
- PHIL 231. History of Philosophy (Ancient) (3 cr)

#### 2. An additional 9 hours to be taken in one of the following areas of emphasis, 6 of which must be above 299.

##### Arts and Archaeology

- AHIST 311. Greek Art & Archaeology (3 cr)
- AHIST 313. Roman Art & Archaeology (3 cr)
- AHIST 411. Classical Architecture (3 cr)
- AHIST 413. Roman Painting (3 cr)

##### Language and Literature

- Courses beyond first year in Latin, Greek or Hebrew*
- CLAS 286. Literature of the Ancient Near East (3 cr)
- CLAS 300B. Egyptian (3 cr)
- CLAS 300C. Coptic (3 cr)
- CLAS 300D. Sanskrit (3 cr)
- CLAS 381. Ancient Novel (3 cr)
- CLAS 483. Classical Drama (3 cr)
- ENGL 340. Classical Roots of English Literature (3 cr)
- ENGL 341. Judaeo-Christian Literature (3 cr)
- THEA 335. History of Theatre I (3 cr)
- THEA 404. Evolution of Dramatic Theory I (3 cr)

##### Religion and Philosophy

- CLAS 307. Early Christianity (HIST 308) (3 cr)
- CLAS 308. History of Comparative Religion (HIST 308) (3 cr)

CLAS 409. The Religion of Late Western Antiquity (HIST 409) (3 cr)

CLAS 410. Gnosticism (3 cr)

PHIL 331. Hellenistic Philosophy (3 cr)

PHIL 335. Medieval Philosophy (3 cr)

PHIL 450. Ancient Philosophy (3 cr)

##### Historical Studies

HIST 311. The World of Homer (3 cr)

HIST 318. The Roman Empire (3 cr)

HIST 412. City States in Classical Greece (3 cr)

HIST 417. The Roman Revolution, 133 BC-68 AC (3 cr)

3. A total of 6 hours selected from two areas outside the selected area of emphasis or other courses as approved by 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 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

- The five core courses (15 hours), plus one elective above 299.

### Requirements for the Major in Greek

- 18 hours of courses numbered 300 or above. A minor is required and may be taken in computer science, English, history, Latin, modern languages, or philosophy. A second minor, if chosen, may be any 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 Major in Latin

- 18 hours of courses numbered 300 or above. A minor is required and may be taken in computer science, English, Greek, history, Medieval and Renaissance studies, modern languages, or philosophy.

**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

**Plan A:** 12 hours numbered above 300  
**Plan B:** 9 hours numbered above 300

### The Minor in Religious Studies

The aim of the religious studies minor is to give the student a knowledge of religion as a phenomenon of human life. The student chooses courses in three distinct areas from a variety of disciplines in the humanities and the social sciences. The minor in religious studies is particularly suited to students whose academic objective is a firm grounding in the liberal arts. It is also effective preparation for students who plan to attend seminary or pursue graduate work in the humanities, social sciences, or theology/religious studies.

Professor Turner is also available for consultation with students planning to attend a seminary or theological school and those who are interested in an Integrated Studies program in religious studies. Professor Turner is the Cotner College Professor of Religion.

### Requirements for the Minor in Religious Studies

- A minimum of 18 hours in the courses listed; at least 9 of those hours must be religion courses. A minimum of 6 hours in each area (A, B, and C) must be selected.

Other courses not listed below, particularly special topics courses, may be applied with permission of the chief adviser.

Students also have the opportunity, through a cooperative agreement, to take selected courses at Nebraska Wesleyan University in ethics, theology and world religions. Please see the chief adviser for arrangement.

### Group A. The Nature of Religion

- ANTH 472. Belief Systems in Anthropological Perspective (3 cr)  
 PHIL 116. Philosophy & Religious Belief (3 cr)  
 PHIL 265. Philosophy of Religion (3 cr)  
 RELG 150. Explaining Religion (3 cr)  
 RELG 182. Alpha Learning Community Freshman Seminar (3 cr)  
 RELG 183. Alpha Learning Community Freshman Seminar (3 cr)  
 RELG 206. Ways of Western Religion (CLAS 206G) (3 cr)  
 RELG 310. Great Ideas in Religious Thought: From God to Nothingness (3 cr)  
 SOCI 452. Sociology of Religion (3 cr)

### Group B. Biblical Studies

- CLAS 311. Ancient Israel (HIST/JUDS 331) (3 cr)  
 ENGL 341. Judaeo-Christian Literature (3 cr)  
 RELG 205. Intro to the Hebrew Bible/Old Testament (CLAS/JUDS 205) (3 cr)  
 RELG 217. Israel: The Holy Land (HIST/JUDS 217) (3 cr)  
 RELG 306. Second Temple Judaism (CLAS/JUDS 306) (3 cr)  
 RELG 307. Early Christianity (CLAS/JUDS 307) (3 cr)  
 RELG 340. Women in the Biblical World (CLAS/JUDS 340) (3 cr)  
 RELG 408. Dead Sea Scrolls (CLAS/JUDS 408) (3 cr)  
 RELG 410. Gnosticism (CLAS 410) (3 cr)

### Group C. The Study of Religious Traditions

- CLAS 286. Literature of the Ancient Near East (3 cr)  
 HIST 218. History of Islam (3 cr)  
 HIST 219. Intro to Jewish History (3 cr)  
 HIST 220. History of Christianity (3 cr)  
 HIST 421. The Age of Religious Reform, 1300-1650 (3 cr)  
 MUSC 451. Music and the Church (3 cr)  
 MUSC 452. Hymnology (3 cr)  
 RELG 308. History of Comparative Religion (CLAS/HIST 308) (3 cr)  
 RELG 332. Jews in the Middle Ages (HIST/JUDS 332) (3 cr)  
 RELG 350. Literature of Judaism (CLAS/JUDS 350) (3 cr)  
 RELG 409. The Religion of Late Western Antiquity (CLAS/HIST 409) (3 cr)

### Courses of Instruction

#### Classics (CLAS)

The courses in this category do not require knowledge of Greek or Latin.

##### **116 [116x]. Scientific Greek and Latin** (2 cr)

Scientific and technical terminology derived from Greek and Latin, with primary emphasis on medical language and terminology.

##### **[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.

##### **[ES][IS] 189H. University Honors Seminar** (3 cr)

Prereq: Admission to the University Honors Program or by invitation. A University Honors Seminar is required of all students in the University Honors Program.

##### **[ES][IS] 205. Introduction to the Hebrew Bible/Old Testament** (JUDS, RELG 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.

##### **[ES][IS] 206G. Ways of Western Religion** (RELG 206) (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.

##### **[ES] 209. Ancient Civilizations of the Middle East to 500 BCE** (HIST 209) (3 cr)

For course description, see HIST 209.

##### **[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.

##### **[ES][IS] 252. Archaeology of World Civilizations** (ANTH 252) (3 cr)

For course description, see ANTH 252.

##### **[ES][IS] 281. The World of Classical Greece** (ENGL 240A) (3 cr)

English translations of the great works of Greek literature which familiarizes the student with the uniquely rich and influential world of Classical Greece.

##### **[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 Heroes 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*.

##### **300D. Beginning Sanskrit** (3 cr)

Introduction to Sanskrit. Equips student with a knowledge of Sanskrit sufficient to read Sanskrit texts with the help of available grammars and dictionaries.

##### **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.

##### **[IS] 306. Second Temple Judaism** (JUDS, RELG 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] 307/307. 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] 308. History of Comparative Religion** (HIST, RELG 308) (3 cr)

Introduction to major religious traditions, their institutions, scriptures, rituals, and thought drawn from representative ages and areas of the world. The formative and classical periods of these traditions emphasized, with some attention to their subsequent modification in response to historical and social exigencies. Possible traditions include Judaism, Christianity, Secularism, Islam, Hinduism, Buddhism, Sikhism, Tao, Shinto, Confucian thought, and materialism.

##### **[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.

[ES] **331. Ancient Israel** (HIST, JUDS 331) (3 cr) Prereq: Sophomore standing or permission. For course description, see HIST 331.

[ES][IS] **340. Women in the Biblical World** (JUDS, RELG 340) (3 cr) Role and status of women as depicted in the Hebrew Bible/Old Testament and the New Testament. Focuses on the stories and laws concerning women found in the Bible, as well as considering extra-biblical evidence.

[ES][IS] **350. Literature of Judaism** (JUDS, RELG 350) (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 17th and 18th Centuries, which saw the development of Hasidism as well as the emergence of rationalist philosophies.

[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: CLAS/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. Religions 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 Manicheans.

**438/838. Topics in Old World Prehistory** (ANTH 438/838) (3 cr) Prereq: 12 hrs anthropology.

For course description, see ANTH 438/838.

[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** (5 cr)

Fundamentals of grammar; reading and writing of simple Greek.

**102. Elementary Greek** (5 cr)

Continuation of GREK 101, reading of Attic prose.

**303. Greek Composition I** (1 cr) Prereq: GREK 102.

Forms and clause syntax.

**304. Greek Composition II** (1 cr) Prereq: GREK 303.

Sentence syntax.

**361. Homer** (3 cr) Prereq: GREK 371 or 372.

**371. Xenophon** (3 cr) Prereq: GREK 102.

Selected reading from the *Anabasis*, *Hellenica*, *Memorabilia*.

**372. Plato** (3 cr) Prereq: GREK 102.

**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.

**NOTE: The prerequisite for any 400-level course is GREK 361 or permission unless otherwise stated.**

[IS] **461/861. Greek Lyric Poetry** (3 cr)

Reading and analysis of original texts, discussion of Greek lyric poetry, poets, dialects, ideas, and influence.

[IS] **462/862. Aeschylus** (3 cr)

[IS] **463/863. Sophocles** (3 cr)

[IS] **464/864. Euripides** (3 cr)

[IS] **465/865. Greek Comedy** (3 cr)

Reading, analysis of original texts, discussion of comedic matters, with a view to dramatic forms and development of ethical modes.

[IS] **471/871. Herodotus** (3 cr)

Greek worldview of the Ancient Near East from the fifth century BC, culminating in the struggle for freedom at Marathon, Salamis, Plataea and Thermopylae.

[IS] **473/873. Greek Orators** (3 cr)

Selected orations from the people's parliament and the people's court.

**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** (5 cr)

Fundamentals of grammar; reading and writing of simple Biblical Hebrew.

**102. Elementary Biblical Hebrew** (5 cr) Prereq: HEBR 101 or permission.

Continuation of HEBR 101; reinforcement of grammar and vocabulary, reading of selected biblical passages.

**201. Biblical Hebrew Prose** (3 cr) Prereq: HEBR 102 or permission.

Intensive and extensive reading of Biblical Hebrew prose texts. Review of grammar.

**202. Biblical Hebrew Poetry** (3 cr) Prereq: HEBR 201 or permission.

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** (cr arr) 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 201; 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** (5 cr)

This course and the following cover the amount of work usually done in two years of high school Latin.

**102. Elementary Latin** (5 cr)

Continuation of LATN 101. Reading of simple prose and Caesar.

**201. Intermediate Latin** (3 cr) Prereq: 2 years high school Latin.

Thorough review of Latin forms and syntax. Reading of Latin prose.

**301. Latin Prose** (3 cr) Prereq: LATN 102 or permission. Selections from the works of Cicero and other Latin prose works.

**302. Latin Poetry** (3 cr) Prereq: LATN 201 or 301.

Readings from Latin poetry and study of Latin poetic technique.

**303. Latin Composition I** (1 cr) Prereq: 4 yrs high school Latin or LATN 302. Forms and clause syntax.

**304. Latin Composition II** (1 cr) Prereq: LATN 303. Sentence syntax.

**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.

**NOTE: The prerequisite for any 400-level course is LATN 302 or permission unless otherwise stated.**

**441/841. Roman Comedy** (3 cr)

Plautus and Terence.

**443/843. Vergil** (3 cr)

[IS] **444/844. Horace** (3 cr) Reading of selections from the odes, satires, epistles; discussion of poetics, esthetics, ethics, and politics expressed in the corpus.

**446/846. Roman Satire** (3 cr)

[IS] **454/854. Roman Historians** (3 cr)

Reading in Latin and discussions of significant portions of the works of Tacitus (chiefly *Annales*), with a close look at historical method and approaches to truth. Selections from Suetonius and Livy.

**456/856. Latin of the Middle Ages** (3 cr)

Selections from representative authors.

**896. Reading and Research** (1-24 cr) Prereq: Permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Course of Instruction (RELG)

[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.

[ES][IS] **182. Alpha Learning Community Freshman Seminar** (3 cr) Requires enrollment in the Alpha Learning Community Program. RELG 183 is normally taken in the next term.

Topic varies.

[ES][IS] **183. Alpha Learning Community Freshman Seminar** (3 cr) Prereq: RELG 182. Requires enrollment in the Alpha Learning Community Program.

Topic varies.

[ES][IS] **205. Introduction to the Hebrew Bible/Old Testament** (CLAS, JUDS 205) (3 cr)

For course description, see CLAS 205.

[ES][IS] **206. Ways of Western Religion** (CLAS 206G) (3 cr)

For course description, see CLAS 206G.

[ES] **217. Israel: The Holy Land** (HIST, JUDS 217) (3 cr)

For course description, see HIST 217.

[IS] **306. Second Temple Judaism** (CLAS, JUDS 306) (3 cr)

For course description, see CLAS 306.

[ES] **307. Early Christianity** (CLAS, HIST 307/807) (3 cr)

For course description, see CLAS 307/807.

[ES] **308. History of Comparative Religion** (CLAS, HIST 308) (3 cr)

For course description, see CLAS 308.

**[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] 332. Jews in the Middle Ages (HIST, JUDS 332) (3 cr)**

Prereq: Sophomore standing or permission.

For course description, see HIST 332.

**[ES][IS] 340. Women in the Biblical World (CLAS, JUDS 340) (3 cr)**

For course description, see CLAS 340.

**[ES][IS] 350. Literature of Judaism (CLAS, JUDS 350) (3 cr)**

For course description, see CLAS 350.

**398. Special Topics in Religious Studies (1-3 cr, max 6 cr)**

Topics vary.

**408. Dead Sea Scrolls (CLAS 408/808, JUDS 408) (3 cr)**

Prereq: CLAS/JUDS/RELG 205 or 306 or permission.  
For course description, see CLAS 408/808.

**[ES][IS] 409/809. The Religions 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.

## Communication Studies

**Chair:** William Seiler, 433 Oldfather

**Professors:** Bormann, DiSalvo, R. Lee, Seiler

**Associate Professors:** Blake, Braithwaite, Japp,

Krone

**Assistant Professors:** Caughlin, Kelley, Stephens

**Senior Lecturers:** Durst, 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 Department of Communication Studies offers programs leading to majors in both the College of Arts and Sciences and Teachers College. 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 Teachers College 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 Teachers College 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 inter-collegiate 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 inter-collegiate 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 311.
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 311, 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 311.
3. A minimum of 9 hours must be taken in communication studies classes at or above the 300 level excluding COMM 311, 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.** A joint program with the College of Journalism and Mass Communications. Students may apply to receive a specialization in public relations by completing specific requirements in both Communication Studies and the College of Journalism and Mass Communications. Students must also minor in marketing. There is an application process and admittance to the specialization 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)

**[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.

**[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.

**[ES][IS] 130. Communication Strategies in Society** (3 cr) Examines communication strategies and symbol manipulation behaviors of a variety of societal groups seeking to acquire and/or maintain power. Particular attention is focused on the rhetorical choices and communication strategies used in informational and persuasive campaigns. Methods and literature of the social sciences are used to guide course content.

**[IS][ES] 189H. University Honors Seminar** (3 cr) Prereq: Admission to the University Honors Program or by invitation. *A University Honors Seminar 189H is required of all students in the University Honors Program.* Topic varies.

### 198. Special Topics (3 cr)

A wide variety of topics. Topic for the term announced prior to early registration.

**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.

### [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.

**[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.

**[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.

**[ES][IS] 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.

**[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** (JOUR 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.

**[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.

**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.

**[ES] 306. Readers Theatre** (3 cr) Prereq: COMM 305 or permission.

Readers theatre as an art form which utilizes oral interpretation experience. Application of theory and technique in script development and direction of performances, in addition to performing in classmates' projects.

**[ES][IS] 311. Business and Professional Communication** (3 cr) Prereq: Sophomore standing. A variety of theoretical and verbal communication approaches intended to help achieve maximum effectiveness in day-to-day relations with "people at work." Focus on: developing interpersonal relationships and competency; interviewing techniques; oral report/technical presentation techniques; small group problem solving/leadership; organizational communication.

### [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, 311 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.

**[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.

### [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: Diagnosis and Change

(3 cr) Examination of organizational communication systems and the design of communication audit procedures. Emphasis on practical experience in applied communication, including supervised fieldwork in which students use their theoretical knowledge in actual organizational communication settings.

### 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. Intensive research and practice.

### 398. Special Topics in Speech

(1-24 cr) Prereq: Permission.

### 399H. Honors Course

(1 cr per sem) Prereq: Open to juniors who are candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.

### 399. Independent Study

(1-3 cr) Prereq: Permission.

### [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.

### 412/812. 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

(CURR 429/829) (3 cr) Prereq: Junior/senior standing; Teachers College 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.

### 459/859. Human Communication Theory

(3 cr) Prereq: Junior standing; COMM 200 and 201; or permission.

Evolution of human communication theory as a social science. Major writers, works, and concepts involved in the study of human communicative interaction.

### [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.

**480/880. Critical and Interpretive Research** (3 cr) Prereq: Junior standing; COMM 200 and 201; or permission. Introduction to critical and interpretive research in communication studies. Relationship of theory and methodology, text and context, selecting appropriate research questions, writing research proposals, and the ethics of research. Philosophical and theoretical assumptions underlying research and procedures for conducting research.

**482/882. Experimental Research** (3 cr) Prereq: Junior standing; COMM 200 and 201; or permission. Introduction to experimental approaches to research in communication. Nature of experimental research, design of research studies, data collection and interpretation.

**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.

**486/886. Organizational Communication** (3 cr) Prereq: Junior standing; COMM 200, 201 and 311; or permission. Principles and theories relevant to communication behavior within organizations as a way to guide people in communicating in organizations.

**487/887. Consulting and Training in Communication** (3 cr) Prereq: Junior standing; COMM 200, 201 and 311; or permission. Research conducted on communication consulting and training. Design of consulting and training programs for use in organizational environments.

**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.

**498/898. Special Topics** (1-3 cr) Prereq: Junior standing; COMM 200 and 201; or permission. *Topic for the semester will be announced prior to early registration.* Topic varies.

**499H. Honors Course** (2 cr per sem) Prereq: Open to seniors who are candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Computer Science and Engineering

**Chair:** Stephen E. Reichenbach, 115 Ferguson Hall

**Chief Undergraduate Adviser:** Charles Riedesel

**Professors:** Bhattacharya, Deogun, Magliveras, Seth, Surkan

**Associate Professors:** Fayad, Henninger, Jiang, Kieckhafer, Reichenbach, Revesz, Samal

**Assistant Professors:** Choueiry, Elbaum, Goddard, Ramamurthy, Scott

**Senior Lecturer:** Riedesel

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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 engineering.

The CSE Department offers a challenging baccalaureate degree program in computer science that prepares graduates for professional practice as computer scientists, provides the basis for advanced studies in the field, and establishes a foundation for life-long learning and achievement.

Graduates are proficient scientists able to solve computer science problems. The program develops:

- current knowledge with breadth and depth including algorithms, data structures, software design, programming language concepts, and computer organization and architecture;
- foundational understanding of the mathematics and sciences for computer science; and
- theoretical foundations, analytical abilities, and design skills for solving computer science problems.

Graduates are broadly educated professionals able to contribute productively in organizational and societal contexts. The program develops:

- 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 and Technology. (See “Department of Computer Science and Engineering” on page 235.) 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, doctor of philosophy in computer science, doctor of philosophy in engineering, and a cooperative doctoral program with mathematics and statistics. 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 41 hours of computer science, 20 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. If appropriate courses are chosen, the Plan A minor requirement can be met with the required 20 hours of math. 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 41 hours of computer science must include: CSCE 155, 156, 230, 230L, 235, 251U, 251Y, 310, and 340. The remaining hours must be in courses from the following four areas with at least one 400-level course in each area. (CSCE 351 may be used to satisfy the 400 level in the Software Area.)

**Software Area:** CSCE 322, 351, 420, 425, 451, 455, and 461.

**Hardware Area:** CSCE 335, 430, 432, 433, 434, and 462.

**Mathematics of Computation Area:** CSCE 423, 427, 428, 429, 441, 447, and 465.

**Applications Area:** CSCE 410, 413, 463, 470, 472, 473, 476, 477, and 479.

CSCE 496 Special Topics will be treated on an individual basis to satisfy the breadth requirement. CSCE 498 Computer Problems may not be used to satisfy the breadth requirement.

The 20 hours of mathematics must include MATH 106, 107, 208; STAT 380 (or 481); and MATH 314. Joint mathematics and computer science majors who take both 441 and 447 may count one of the courses towards both majors and the other towards the major in the department through which the student registered for the course.

The 12 hours of science must be in courses designed for science/engineering majors including a two-semester sequence of courses with laboratories in a single science discipline. The approved sequences are:

BIOS 101/101L and 109 or 101/101L and 112/112L or 109 and 112/112L or 201 and 301/305

CHEM 109 and 110 or 113 and 114/116

GEOL 101 and 103

PHYS 211/220 and 212/222

The remaining hours may be taken from any astronomy, biological science, chemistry, physical geography, meteorology, geology, or physics courses except those noted as “not for major credit” or “not a prerequisite for any other major course” or “for non-science majors.” It is not required that a laboratory be included with these remaining hours. Students may petition for substitutions for the two-course sequence and the remaining hours. Substitution requests 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:

1. To complete a one hour knowledge-based multiple choice test.
2. 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 Computer Science

- 18 hours of computer science courses or approved substitutions. Contact the chief adviser for recommended programs appropriate for various majors.

## Courses of Instruction (CSCE)

**[ES] 101. Fundamentals of Computing** (3 cr) Lec 3. *Will not count towards the requirements for a major or minor in computer science and computer engineering*  
Introduction to the breadth of computer science. Topics include hardware, software, networks, theory, and social issues. This is a course in the science of computation, suitable for non-majors and prospective majors.

**[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.

**110. Introduction to Data Processing** (3 cr) Lec 2, rct 1. *Credit can be given for only one of CSCE 110 and 252A. Credit cannot be given to computer science majors for CSCE 110; students with previous programming experience should consider CSCE 252A. Designed for students without a strong mathematics background.*  
Introduction to computers and programming with emphasis on business and nonnumerical applications using COBOL (Common Business Oriented Language); introduction to computer technology and jargon; elementary COBOL programming; elements of problem analysis.

**150. Introduction to Computer Programming** (3 cr) Lec 3, lab 1. Prereq or coreq: MATH 103. *Credit cannot be given for both CSCE 150 and any other introductory programming course in a high-level language. Students planning a major or minor in computer science or computer engineering should take CSCE 155 rather than CSCE 150. CSCE 150 is particularly appropriate for majors in science or engineering.*  
Introduction to computers and problem-solving with computers including problem analysis and specification, algorithms, programming in a high-level language, and data representation and processing.

**[ES] 155. Introduction to Computer Science I** (4 cr) Lec 3, lab 1. Prereq: CSCE 101/101L and MATH 103 (or appropriate scores on placement exams).  
Introduction to problem-solving with computers including problem analysis and specification, algorithm development, program design, and implementation in a high-level programming language. Laboratory assignments introduce advanced software developments, including operating systems and develop mastery of a high-level programming language and good programming practices.

**[ES] 155H. Honors: Introduction to Computer Science I** (4 cr) Lec 3, lab 1. Prereq: Good standing in the University Honors Program or by invitation; CSCE 101/101L and MATH 103 (or appropriate scores on placement exams). Honors course covering same topics as CSCE 155 but in greater depth.

**[ES] 156. Introduction to Computer Science II** (4 cr) Lec 3, lab 1. Prereq: CSCE 155 and MATH 106 (or appropriate scores on placement exams).  
Continued development of computer science and problem-solving with emphasis on abstraction and object-oriented programming. Problem analysis, specification, top-down design, and modularization. Strings, lists, stacks, queues, and other abstract data types. Linear and linked data structures, recursion, searching, and sorting. Exposure to performance analysis, correctness, application programmer interfaces, and software reuse. Lab assignments involve larger, more complex problems than CSCE 155, with emphasis on systematic development of systems of related software.

**[ES] 156H. Honors: Introduction to Computer Science II** (4 cr) Lec 3, lab 1. Prereq: Good standing in the University Honors Program or by invitation; CSCE 155 and MATH 106 (or appropriate scores on placement exams). Honors course covering same topics as CSCE 156 but in greater depth.

**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) Coreq: CSCE 230L. Prereq: CSCE 150 or 155, or detailed knowledge of a high-level programming language.  
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) Coreq: CSCE 230L. Prereq: Good standing in the University Honors Program or by invitation; CSCE 150 or 155, or detailed knowledge of a high-level programming language.  
Honors course covering same topics as CSCE 230 but in greater depth.

**230L. Computer Organization Laboratory** (1 cr) Lab 2. Coreq: CSCE 230. Prereq: CSCE 150 or 155. Computer aided tools to provide hands-on practice and reinforcement of concepts and techniques learned in CSCE 230. Assembler programming and arithmetic and logic function design.

**231. Assembly Language and Systems Programming** (3 cr) Prereq: CSCE 230 and 251U.  
Computer programming at the assembly level. Interface between high- and low-level languages. Structure and design of basic systems software-assemblers, macro processors, device drivers, linker loaders, compilers and operating systems.

**[ES] 235. Introduction to Discrete Structures** (3 cr) Prereq: CSCE 155 and MATH 106.  
Survey of elementary discrete mathematics. Set theory including relations and functions, elementary graph theory, number representation, recursion, induction and recurrence relations, complexity of algorithms, propositional logic, methods of proof, and elementary combinatorics.

**251K. C Programming** (1 cr) 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.

**251U. Unix Programming** (1 cr) 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.

**251Y. X-Windows Concepts and Programming** (1 cr) Prereq: CSCE 156 and 251U; or permission.  
Introduction to X-windows: basic concepts, windows and window managers, graphics contexts, text, color, mouse, images, resource management and Xlib programming. Introduction to and programming with toolkits and widget classes. A hands-on course with emphasis on programming.

**252A. COBOL Programming** (1 cr) Prereq: Familiarity with one high-level programming language. *Intended only for experienced programmers.*  
Principles and practice of programming in the COBOL language.

**252D. FORTRAN Programming** (1 cr) Prereq: Familiarity with one high-level programming language. *Credit cannot be given for both CSCE 252D and any of CSCE 150, or ENGM 112, or ELEC 121.*  
Principles and practice of FORTRAN programming.

**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.

**[IS] 310. Data Structures and Algorithms** (3 cr) Prereq: CSCE 156 and 235.  
Review of lists, stacks, queues, and recursion. "Set" data type and hashing. Priority queues, file compression and Huffman codes. Binary trees, B-trees and searching algorithms. Graph algorithms, including shortest paths and minimum spanning trees. Sorting algorithms, including external sorting. String processing, geometric algorithms, and memory management.

**322. Programming Language Concepts** (3 cr) Prereq: CSCE 156 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: CSCE 150 or 155 and MATH 208. *Credit cannot be given for both CSCE 340 and ENGM 480.*  
Algorithm formulation for the practical solution of problems such as interpolation, roots of equations, differentiation and integration. Includes analysis of effects of finite precision.

**351. Operating System Kernels** (3 cr) Prereq: CSCE 230, 230L, and 310.  
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 with students implementing or extending an instructional operating system kernel.

**[IS] 378. Human-Computer Interaction** (3 cr) 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.

**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.

**410/810. Information Retrieval Systems** (3 cr) 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 automati indexing. Automatic query formulation. System-user adaptation and learning mechanisms. Intelligent information retrieval. Retrieval evaluation. Review of new theories and future directions. Hands-on experience with a working experimental information retrieval system.

**413/813. Database Systems** (3 cr) Prereq: CSCE 310.  
Data and storage models for database systems; entity/relationship, relational, hierarchical, and network models; hierarchical databases and their access operations. Network databases and their access operations. Relational databases; relational algebra and calculus; inquiry languages; normalization. Logical database design. Concurrency, integrity, and security issues. Distributed systems. Hands-on experience with a working database system.

**420/820. Language Structures** (3 cr) Prereq: CSCE 310.  
Basic elements of programming language design and compiler writing. Grammars of Chomsky Hierarchy; regular sets and finite automata; lexical scanners, context-free grammars and their normal forms; pushdown automata; deterministic top-down and bottom-up parsing; simple precedence grammars; operator precedence grammars; syntax directed translation.

**[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.

**425/825. Compiler Construction** (3 cr) Prereq: CSCE 420. 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.

**427/827. Combinatorial Methods for Computer Science** (3 cr) Prereq: CSCE 310. Models of computation, generating functions, recurrence relations, graphs and algorithms on graphs, Ramsey theory, applications of planar graphs to VLSI.

**428/828. Automata, Computation, and Formal Languages** (3 cr) 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.

**429/829. Parallel Algorithms and Programming** (3 cr) Prereq: CSCE 310 or permission. Introduction to the fundamentals of parallel computation and applied algorithm design. Models of parallel computation; general techniques for designing efficient parallel algorithms for fixed-connection processor networks like arrays, trees and hypercube-like networks; elementary algorithms for parallel random access machines; principles and practice in programming an existing parallel machine.

**430/830. Computer Architecture** (3 cr) Prereq: CSCE 230, 231, 310, and parallel STAT 380/880 or ELEC 410/810; or permission. Credit not applicable towards 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. Topics: 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) Prereq: CSCE 430, MATH 314, and MATH 380 or ELEC 410; or permission. High performance computing in the context of a single processor, including the underlying principles and micro-architectures of contemporary high-performance processors. Assumes basic knowledge of pipelined scalar processors, and covers the Vector, Super-Scalar, and Very Long Instruction Word (VLIW) architectural paradigms. Numerous case studies of actual systems highlight real-world design trade-offs and amplify the theoretical discussions.

**433/833. Distributed and Multiprocessor Architectures** (3 cr) Prereq: CSCE 430, MATH 314, and (MATH 380 or ELEC 410) or permission. Introduction to distributed and multiprocessor computer architectures. Addresses the principles of and relationship between the shared memory and the message passing MIMD architectural paradigms. Investigates the issues of design, implementation, application, and performance evaluation of MIMD architectures. Multiprocessor simulations, parallel programming, and case studies of commercially available machines to reinforce theoretical studies.

**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, datapath, control unit, and highly concurrent systems as well as topics in design automation.

**441/841. Approximation of Functions** (MATH 441/841) (3 cr) 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) Prereq: CSCE 340, MATH 221 and 314. Numerical matrix methods and numerical solutions of ordinary differential equations.

**451/851. Operating Systems Principles** (3 cr) 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.

**452/852. Database Organization and Management** (MIST, MNGT 452/852) (3 cr) Prereq: For CBA and arts and sciences majors: MNGT/MIST 350, CSCE 150 (FORTRAN) and 252A (COBOL), or equivalent, or successful completion of MNGT 198D, College of Engineering and Technology majors: CSCE 150 (FORTRAN) and 252A (COBOL), or equivalent. MNGT/MIST/CSCE 452/852 is not open to computer science majors who should register for CSCE 413/813 instead. For course description, see MNGT 452/852.

**455/855. Distributed Operating Systems** (3 cr) 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.

[IS] **461/861. Software Engineering** (3 cr) Prereq: CSCE 310 or permission. Students will participate in group design and implementation of a software project. Techniques used in the disciplined development of large software projects. Includes software requirements analysis and specifications, program design, coding and integration testing, and software maintenance. Software estimation techniques, design tools, and complexity metrics.

**462/862. Communication Networks** (3 cr) Prereq: STAT 380 or ELEC 410/810 and CSCE 430/830 or permission; CSCE 451/851 recommended. Introductory level course on the architecture of communication networks, and the rudiments of performance modeling. Includes circuit switching, packet switching, hybrid switching, protocols, local and metro area networks, elements of queuing theory and performance modeling, and network control. Advanced material spans broadband integrated digital networks, asynchronous transfer mode, fiber optic networks, and their performance studies.

**463/863. Introduction to Coding Theory** (3 cr) Prereq: CSCE 310; MATH 314/814 or equivalent. Introduction to the theory of Error Correcting Codes. Includes Binary symmetric channel, probability of error, finite fields, linear codes, parity check and generator matrices, standard array, maximum likelihood decoding, sphere packing, Plotkin and other bounds, Hamming codes, Perfect codes, BCH codes.

**465/865 (865T). Introduction to Mathematical Logic I** (MATH 465/865) (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.

**466/866. Software Design Methodologies** (3 cr) Lec 3. Prereq: CSCE 310 or permission. Analysis and design for software systems development, including problem analysis, requirements specification, usability, software system models, maintenance and enhancement. Understanding of methodologies and skills in the practice of design, including design and integration within existing systems. Design of both functional and structural aspects of software that is of sufficient size and complexity as to require the efforts of several people for many months.

**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) Prereq: CSCE 231, 251Y, 310, MATH 314, or permission. 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.

**472/872. Computer Vision I** (3 cr) Prereq: CSCE 310 or permission. Low-level processing for computer vision with focus on data structures and algorithms. Computer-based techniques compared with biological systems for low-level (or early) vision. Includes image formation and restoration, edge-detection, region and texture analysis, coding, motion, and reconstruction.

**473/873. Computer Vision II** (3 cr) Prereq: CSCE 472/872 or permission. High-level processing for computer vision. Includes matching, segmentation, structure representation, picture description, knowledge-based systems, and active vision.

[IS] **476/876. Introduction to Artificial Intelligence** (3 cr) 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) 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.

**479/879. Introduction to Neural Networks** (3 cr) Lec. 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.

**488. Computer Engineering Professional Development** (1 cr) Lec 2. Prereq: IGEN 200; ELEC 362, 476 and CSCE 430, or parallel each. CSCE 488 is a preparation course for the computer engineering Senior Design Project (CSCE 489). CSCE 488 and 489 are a sequence of courses 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.

[IS] **489. Computer Engineering Senior Design Project** (3 cr) Prereq: ELEC 362 and 476; CSCE 430 and \*488. CSCE \*488 and \*489 must be taken in sequence. CSCE \*488 must be taken first and in the term previous to registering for CSCE \*489. Permission must be obtained to take the courses out of sequence. CSCE \*489 will use the team approach. All teams are given a broadly defined design problem containing aspects of both software and hardware design. Projects are of sufficient complexity as to require team members to partition and coordinate their efforts for successful completion. Written technical reports and oral presentations required. Undertake a substantial design project.

**490. Special Topics in Computer Science** (1-3 cr, max 6 per sem) 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.

**496/896. Special Topics in Computer Science** (1-3 cr per sem) 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: Professor Robert Hitchcock** (anthropology and international studies), 310 Ferguson Hall

**Faculty:** Avery (political science), Dienstbier (psychology), Hames (anthropology), Leger (psychology), Maslowski (history), May (economics), Olson (English), Petr (economics), Potter (philosophy), Siegman (sociology)

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 337/837. War & Peace in Europe: 1789-1914  
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  
ECON 488/888. Economics of Socialism  
GEOG 242. Geographical Background to World Affairs  
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.

## Diversified Agricultural Studies

### (Minor only)

#### Requirements for a Minor in Diversified Agricultural Studies, (formerly General Agriculture)

- A minimum of 18 hours in courses offered by the College of Agricultural Sciences and Natural Resources including at least one 2-or-more-credit-hour course selected from each of three of the following general areas:
  - Agricultural Economics
  - Agricultural Leadership, Education and Communication 102, 202, 494 and 496; food science and technology, mechanized systems management, or soil science.
  - Animal Sciences (animal science; forestry, fisheries and wildlife or veterinary and biomedical science)
  - Crop and Commodity Protection (entomology; weed science; AGRI 200; FDST 403, 405, 406; NRES 348; MSYM 342, 364; plant pathology; or VBMS 303, 304.
  - Plant Sciences (agronomy; horticulture; or forestry, fisheries and wildlife)

At least 9 hours of the agricultural courses must be at the 200 level and 6 hours at the 300 level or above. The specific minor program must be prepared in consultation with the Dean's Office of the College of Agricultural Sciences and Natural Resources, 103 Agricultural Hall, and must be approved by the deans of both colleges on a College of Arts and Sciences substitution form available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

## Economics

**Chair:** James R. Schmidt, 340 College of Business Administration Building

**Professors:** Anderson, Hayden, Lamphear, MacPhee, Petr, Riefler, Rosenbaum, Schmidt, Walstad

**Associate Professors:** Cushing, Fuess, Kim, May, McGarvey, van den Berg

**Assistant Professors:** Allgood, Klaus

#### NOTE FOR ECONOMICS MAJORS:

Completion of ECON 311 and 312 is recommended before taking other 300- and 400-level courses. You are required to consult your economics faculty adviser on your choices of 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 357, which has no prerequisite. ECON 211 and 212 is 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.** Departmental permission must be obtained 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 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 180 may be substituted for ECON 215 if STAT 180 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. You are required to consult and obtain approval from your faculty adviser on your choices of 300- and 400-level courses for the major.

## Requirements for the Minor in Economics

**Plan A:** 18 hours  
**Plan B:** 12 hours

This department participates in the program of the Institute for International Studies. For a full description of the Institute, see "International Affairs" on page 36.

## 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.

**[ES] 211 [211x]. 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.

**[ES] 212 [212x]. 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** (previously 374) (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** (previously 373) (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. Microeconomic 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**

(AECN \*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, 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 [450f/850f]. 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] 357. Women and Work in the US Economy (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. Special attention is given to the 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. US Economic History I (HIST 457/857) (3 cr) Prereq: ECON 210, or both 211 and 212.**

Transformation of the US economy from an agrarian to an industrial society and the impact of that transformation on people's lives and livelihoods. Focuses on the late eighteenth and nineteenth centuries. Special attention to economics of slavery, the impact of the railroads, immigration, and the collective response of business and labor to industrialization.

**[IS] 458/858. US Economic History II (HIST 458/858) (3 cr) Prereq: ECON 210, or both 211 and 212.**

Transformation of the US economy in the twentieth century. Special attention to 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.

**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. 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****321. Introduction to International Economics (3 cr)**

Prereq: ECON 210 or 211.

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.

Refer to the Graduate Bulletin for 900-level courses.

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 or 211.

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****[ES] 215 [215x]. Statistics (3 cr) Prereq: MATH 104 or 106; successful completion of MNGT 198D. Credit towards the degree in the College of Business Administration may be earned in only one of: BIOM 201 or CRIM 300 or ECON 215 or EDPS 459/859 or SOCI 206 or STAT 180. Credit towards the degree in the College of Arts and Sciences cannot be earned in both ECON 215 and STAT 180, or in both STAT 180 and EDPS 459/859. 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 418/818.**

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. A University Honors Seminar 189H is required of all students in the University Honors Program. Topics vary.****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.

## Education

### (Minor only)

**Coordinator:** Anne Kopera, 107 Oldfather

This minor allows students to explore the field of education. It would also be useful for students who would like a basic set of education courses as background for a career that involved instruction, but did not require certification to teach in public schools.

### Requirements for a Minor

- 19-20 hours from the following courses. Students should complete the basic core first.

#### I. Basic Core-13-14 hours minimum:

- EDUC 131** Foundations of Modern Education or **CURR 331** Cultural Foundation of American Education or **CURR 431** History of Education in the United States (3 cr) **and**
- Either **both EDPS 250** Fundamentals of Child Development for Education and **EDPS 197** Professional Practicum Experiences or **both EDPS 251** Fundamentals of Adolescent Development for Education and **EDPS 297** Professional Practicum Experience (3-4 cr) **and**
- EDPS 362** Learning in the Classroom (3 cr) **and**
- CURR 330** Multicultural Education (3 cr) or **CURR 430** Intro to Philosophy of Education (3 cr).

#### II. Choose 6 hours from curriculum and instruction, educational psychology, health education except 170, physical education, or special education. Contact education adviser for list of recommended courses.

**Pass/No Pass.** A student may apply up to 6 hours of pass/no pass credit toward a minor in education.

## English

**Acting Chair:** Stephen Hilliard, 204A Andrews Hall

**Vice Chair:** Robert Bergstrom

**Chief Adviser:** Jacquelynn Sorensen

**Professors:** Behrendt, Bergstrom, Brooke, Brookes, DiBernard, Dixon, Haller, Harris, Hilliard, Honey, Kaye, Kuzma, Olson, Owomoyela, Pratt, Raz, Rosowski, Stock

**Associate Professors:** Bauer, Blaha, Buhler, Caragnano, Eggers, Ford, Grajeda, Gregory, Hostetler, Knippling, McShane, Ritchie, Shapiro, Slater, White, Wolf

**Assistant Professors:** Bhatnagar, Foster, Gallagher, Goodburn, Hardending, Minter, Nissé, Patton, Powell, Spencer

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 and literature, 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. Literacy or rhetorical theory (270, 471, 475 or 475A).....	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 (210B, 215E, 215J, 244, 244B, 244E, 245B, 245D, 245J, 315A, 315B).....	3
F. Capstone Course .....	3
G. Concentration** .....	12

\*Only one of these courses may count for the historical literature core.

\*\*Several suggested concentrations will be available in the English Advising Office (123 Andrews), but a student may develop a special field concentration in consultation with the Chief Adviser and appropriate faculty.

No more than 6 P/N 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 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.

### Requirements for the Major in English for Students in Teachers College

- Consult the Teachers College section of this bulletin.

### Requirements for the Minor in English

**Plan A.** 18 hrs of English above the 100 level, including ENGL 200; 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 P/N 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 participates in the major in Women's Studies; in the minors in Black Studies, Chicano Studies, Ethnic Studies, Film Studies, American Indian 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 and linguistics; 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; film; and folklore. 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 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 freshman 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 (\*) 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.)

[ES][IS] **101 [101x]. Composition and Literature I** (3 cr) *ENGL 101 and 102 are independent courses and need not be taken in sequence.*

Beginning study and practice of composition with special emphasis on literature as a source of shared experience, of topics, and of models. Special sections may be devoted to literature by and about groups of Americans.

- A. Black Americans
- B. Chicano Americans
- D. Native Americans

**101H. Honors: Composition and Literature I** (3 cr)

Prereq: Good standing in the University Honors Program or by invitation. *ENGL 101H and 102H are independent courses and need not be taken in sequence.* For course description, see ENGL 101.

[ES][IS] **102 [102x]. Composition and Literature II** (3 cr) *ENGL 101 and 102 are independent courses and need not be taken in sequence.*

Beginning study and practice of composition with special emphasis on literature as a source of shared experience, of topics, and of models. Special sections may be devoted to literature by and about groups of Americans.

- A. Black Americans
- B. Chicano Americans
- D. Native Americans

**102H. Honors: Composition and Literature II** (3 cr)

Prereq: Good standing in the University Honors Program or by invitation. *ENGL 101H and 102H are independent courses and need not be taken in sequence.* For course description, see ENGL 102.

[ES][IS] **150. Composition I** (3 cr)

For beginning students in the study and practice of composition, emphasizing the development of personal, professional, and academic writing in the context of local and regional issues.

[ES][IS] **150H. Honors: Composition I** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

For selected students in the study and practice of composition, emphasizing the development of personal, professional, and academic writing in the context of local and regional issues.

[ES][IS] **151. Composition II** (3 cr)

For beginning students in the study and practice of composition, emphasizing the development of personal, professional, and academic writing in the context of global issues.

[ES][IS] **151H. Honors: Composition II** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

For selected students in the study and practice of composition, emphasizing the development of personal, professional, and academic writing in the context of global issues.

[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. Advanced academic writing and speaking for international students.

[ES][IS] **\*189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *A 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 and "Plan A" English minors; recommended for others interested in the perspectives and methods of English studies.*

Exploration of the issues, perspectives, and methods of the discipline, focusing on the relationships among authors, texts, audiences, and contexts, including practice in imaginative and analytical approaches.

[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.

[ES] **\*201B. Twentieth-Century Drama** (3 cr) Survey of major playwrights and dramatic movements, such as realism, naturalism, expressionism, "epic theater," and theater of the absurd, from Ibsen to the present.

[ES][IS] **\*202. Twentieth-Century 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.

[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.

[ES][IS] **205 [205x]. Twentieth-Century Fiction** (3 cr) Selected readings in the novel and short story, mainly American, British, and European, from 1900 to the present.

**\*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) Survey of the 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.

**210. Themes in Literature** (3 cr) Introductory course in groups of literary works of various types from various periods and countries, studied in the context of a significant issue or concept. Examples: sex roles in literature, Christian themes in literature, Arthur in legend and literature, literature of war and peace, literature of agriculture, illness and health in literature.

**211. Regional Literature** (3 cr) Introductory course in literary works of various types and periods representative of the themes and perspective of writers influenced by a particular regional culture. Examples: literature of the Great Plains, literatures of the South.

[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.

[ES][IS] **215E. Introduction to Women's Literature** (3 cr) Representative works in various forms by women from the Middle Ages to the present, in order to identify significant cultural, social, and historical issues and themes.

[ES][IS] **215J. Twentieth-Century Women Writers** (3 cr) Introduction to a variety of works written by women in the twentieth century, including British, American, and translated works, as seen in their intellectual and cultural context.

[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)**

Survey of the 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)**

Introduction to the aims and methods of contemporary linguistic science. Emphasis on understanding the cultural, social, and psychological contexts of language. Examples from education, business, politics, and other areas of current concern.

**[ES][IS] 230. English Authors before 1800 (3 cr) *Recommended for nonmajors interested in literature and its historical and cultural context.***

Survey of major British writers from Beowulf to the end of the eighteenth century. Attention given to historical background.

**[ES][IS] 230A. Shakespeare (3 cr)**

Introductory study of a representative sample of Shakespeare's works. Some films of dramatic performances may be shown.

**[ES][IS] 231. English Authors after 1800 (3 cr) *Recommended for nonmajors interested in literature and its historical and cultural context.***

Survey of major works by British authors of the Romantic and Victorian periods and of the twentieth century.

**[IS] 231A. The Brontes and Their World (3 cr)****[ES][IS] 233B. Major American Authors (3 cr)**

Introduction to American literary works and biographical materials through examination of three or four major authors. Examples: Hawthorne, Melville, Dickinson, Whitman, Cather, Frost.

**[ES] \*234A. Classic European Authors (3 cr)**

Survey of continental European literature from ancient Greece and Rome through the Medieval period and the Renaissance.

**[ES] \*234B. European Authors since 1660 (3 cr)**

Survey of European literature from the French Renaissance to the modern period, with emphasis on French, Russian, and German literature.

**[ES] \*234D. Major Themes in World Literature (MODL 234D) (3 cr)**

For course description, see MODL 234D.

**[IS] \*239. Film Directors (3 cr)**

Films of one director or a small group of directors. Weekly film screenings.

**[ES][IS] 239B. Women Filmmakers (3 cr)**

Survey of the 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.

**[ES][IS] 244. African American Literature (3 cr)**

Survey of representative African American works, primarily twentieth century, of various genres, studied in their social and historical contexts.

**[ES][IS] 244A. Introduction to African Literatures (3 cr)**

Survey of 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.

**[ES][IS] \*244B. Black Women Authors (3 cr)**

Survey of representative works of various types, primarily twentieth century, studied in their social and historical contexts.

**[ES][IS] \*244D. African-Caribbean Literature (3 cr)**

Survey of the history and multi-generic variety of African-Caribbean literature written in English.

**[ES][IS] 244E. Early African American Literature (3 cr)**

Survey of representative early African American works of various genres, studied in their social and historical contexts, from the oral tradition to the Harlem Renaissance.

**[ES][IS] 245B. Native American Literature (3 cr)**

Introduction to literature by and about the American Indian covering early and recent periods.

**[ES][IS] \*245D. Chicano Literature (3 cr)**

Introduction to literature by and about Mexican-Americans studied in its cultural and historical context.

**[ES][IS] 245J. Jewish-American Fiction (3 cr)**

Survey of twentieth century novels and short stories by major Jewish-American authors.

**\*245L. Canadian Literature (3 cr)**

Canadian literature from the pre-confederation period to the present.

**[ES][IS] \*247. Literature and Arts on the Plains (3 cr)**

Introductory survey of 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.

**[ES][IS] 252. Writing of Fiction (3 cr)**

Introduction to the writing of fiction. Emphasis on student writing within a context of theory and criticism.

**[ES][IS] 253. Writing of Poetry (3 cr)**

Introduction to the writing of poetry. Emphasis on student writing within a context of theory and criticism.

**\*253A. Writing of Poetry: Women's Poetry (3 cr)**

Introduction to the writing of poetry. Emphasis on student writing with special focus on reading women poets and on issues that concern women writers.

**[ES][IS] 254. Composition (3 cr)**

For intermediate students in the study and practice of composition.

**\*258B. Autobiographical Writing (3 cr)**

Reading and analysis of published autobiographical writing and practice in recalling, researching, and writing autobiographical material.

**[258x]. Special Topics in Writing (2 cr) Prereq: 6 hrs freshman English.**

Independent study course for intermediate students in the study and practice of composition.

**[ES][IS] \*259A. Writing for Films and TV (3 cr)**

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][IS] 261E. American Literary Works (3 cr)**

Introduction to the study of American literature through the analysis of themes and ideas in a series of great works chosen from different historical periods and literary genres.

**\*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.

**[IS] 270. Literary/Critical Theory (3 cr)**

Nature and function of literary/critical theory in the study of literary texts. Focuses on selected approaches and is not intended as a general survey.

**[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][IS] \*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)**

Each minicourse examines a limited body of material for a five-week period. Topics vary; see the Department of English *Course Description Booklet* for information about minicourses to be offered in a particular semester.

**299. Independent Directed Reading (1-6 cr) Prereq: Permission.****\*302A. Poetry since 1960 (3 cr)**

Survey of major trends and authors of British and American poetry since 1960.

**[ES][IS] 303. Short Story (3 cr)**

Introduction to the historical context, criticism, and interpretation of short stories.

**[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.

**\*310D. Love and Death in Literature (3 cr)**

Various ideas of love, passion, and death as they conflict and interrelate in literature since the Renaissance.

**[ES] \*311D. Literature of Socialism (3 cr)**

Readings in the imaginative literature and philosophical and social writing of diverse revolutionary social movements. Marxism, Anarchism, Feminism, and Third World authors and thinkers included, and the history of American radicalism emphasized.

**\*311G. Revolution and Romanticism (3 cr)**

Romantic movement in literature and its relation to political and economic revolutions in England, France, and America.

**\*312B. 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.

**[ES][IS] \*315A. Survey of Women's Literature (3 cr)**

Historical survey of women's writings in English.

**[ES][IS] 315B. Women in Popular Culture (3 cr)**

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)**

Language and related topics such as dialect, gender, ethnicity and race, discourse, language planning, and applied sociolinguistics, which is concerned with language and mass media, the courts, medical care, and education.

**330. British Authors to 1800 (3 cr)**

Intensive study of the works of an author or small group of authors, usually in historical and biographical context. Examples: Chaucer, Shakespeare, Milton, Jane Austen, Dickens.

**331. British Authors Since 1800 (3 cr)**

Intensive study of the works of an author or small group of authors, usually in historical and biographical context. Examples: Chaucer, Shakespeare, Milton, Jane Austen, Dickens.

**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)**

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.

**[ES][IS] \*340. Classical Roots of English Literature (3 cr)**

Greek and Roman literary works emphasizing their influence on English and American literature.

**[ES][IS] \*341. Judeo-Christian Literature (3 cr)**

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)**

Survey of the works of Irish authors written in English, primarily from the late nineteenth century to the present, in their historical, cultural, and social context.

**\*342B. Art of Franz Kafka (3 cr)**

An influential modern European Jewish writer.

**[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.

**352. Advanced Writing of Fiction (3 cr)**

Study and practice of the writing of fiction for intermediate students with previous fiction writing experience.

**353. Advanced Writing of Poetry (3 cr)**

Study and practice of the writing of poetry for intermediate students with previous poetry writing experience.

**[IS] 354. Advanced Composition** (3 cr) Prereq: 3 hrs English composition at the 200 level or above or permission. Intensive study and practice in writing non-fiction prose, for intermediate and advanced students.

**[ES][IS] 361A. Introduction to Early American Literature** (3 cr)

Survey of major authors, themes, and intellectual trends in American literature from 1619 to 1865, including works from the Colonial, Early National, and Romantic periods.

**[ES][IS] 361B. Introduction to Late American Literature** (3 cr)

Survey of major authors, themes, and intellectual trends in American literature from 1865 to the present, including works from the Realist, Modernist, and Contemporary periods.

**[ES][IS] 362. Introduction to Medieval Literature** (3 cr)

Survey of 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)

Survey of 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.

**[ES][IS] 364. Introduction to Restoration and Eighteenth-Century Literature** (3 cr)

Survey of major English writers—such as Dryden, Pope, Swift, Johnson—seen in the literary, historical, and intellectual context of the period 1660–1800.

**[ES][IS] 365. Introduction to Nineteenth-Century British Literature** (3 cr)

Survey of the 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.

**[IS] \*376. Rhetoric: Argument and Society** (3 cr)

Survey of major rhetorical theories, both ancient and modern, with emphasis on the politics and psychology of persuasion in its social context.

**[ES] 381. Ancient Novel** (CLAS 381) (3 cr) Prereq: Junior standing or permission.

For course description, see CLAS 381.

**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)

Drawn from areas as epic, Renaissance, Romantic, Victorian, American, and contemporary poetry.

**[IS] 405/805. Fiction** (3 cr)

Fiction, primarily novels, in particular historical periods or other groupings, examining the relation of the writers both to one another and to the aesthetic and intellectual climate of their times. Examples: American novel to Dreiser; American novel since Dreiser; eighteenth-century, nineteenth-century, or twentieth-century British fiction; Canadian fiction.

**\*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.

**[IS] \*411B/811B. 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.

**414/814. Women's Literature** (3 cr)

Intensive study of particular historical or other groups of literature by and about women, seen in their aesthetic and intellectual context. Examples: survey of women's literature, continental women writers, twentieth-century women writers.

**\*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)

Survey of the 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)

Extensive study in the works of a particular major author seen in literary, historical, biographical, and critical context. Examples: Chaucer, Shakespeare, Milton.

**\*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.

**445/845. Ethnic Literature** (3 cr)

Intensive study of the works of writers with connections to one or more American ethnic communities, seen in their historical, intellectual, and cultural context. Examples: survey of ethnic literatures, Native American literature, African/African-American literatures, African American literature.

**\*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 emphasized.

**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.

**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.

**457. Composition Theory and Practice** (3 cr) Prereq:

Admission to a Teachers College Teacher Education Program. Recent research on language development and the process of writing. Applications of theory to composition instruction, especially in K-12 grades.

**[IS] 457A/857A. Composition and Rhetorical Theory** (3-4 cr)

Overview of theoretical approaches to writing instruction and to the field of composition and rhetoric.

**\*459/859. Writing for Film and TV** (3 cr)

For advanced students with previous experience in script writing. Emphasis on 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.

**\*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. Nineteenth-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** (3 cr)

Survey of the history and theory of literary criticism from ancient times to the present.

**\*475/875. Rhetoric** (3 cr)

Rhetoric and rhetorical theory in relation to literature, composition, and language. Example: Rhetoric of Women Writers.

**476. Reading Theory and Practice** (3 cr) Prereq: Admission to a Teachers College Teacher Education Program.

Second course in a sequence designed for teacher education and language arts students. Application of reading theory to instruction in literature and composition, especially in K-12 grades.

**[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.

**487. English Capstone Experience** (3 cr) *Open only to English majors who have completed 24 hours of English courses numbered 200 and above.*

Integration and application of skills and knowledge gained by students in courses taken in the English major. Development of these skills and knowledge in individual student projects geared toward life after graduation.

**495. Internship in English** (1-6 cr) Prereq: Permission.

**497/897. Independent Directed Reading** (1-6 cr) Prereq: Permission.

**498/898. Special Topics in English** (3-6 cr) 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.

## Entomology

**(Minor only)**

**Coordinator:** Anne Kopera, 107 Oldfather Hall

### Requirements for the Minor in Entomology

**Plan B.** 6 hours in entomology courses numbered above 400.

## Environmental Studies

**Director:** Ron Case, 204 Natural Resources Hall  
**Chief Undergraduate Adviser:** Berkley Bailey, 131 Bessey Hall

**Coordinating Committee:** Professors Ballinger (biological sciences), Blum (geology), Carr (chemistry), Case (natural resources), Gaber (community and regional planning), Wandsnider (anthropology), Williams, Jr. (sociology)

**Liaison Persons:** Edward Schmidt, Associate Dean (College of Arts and Sciences); Steve Waller, Associate Dean (College of Agricultural Sciences and Natural Resources)

The environmental studies major is designed to serve a variety of students concerned about environmental issues and change. Students may select a BS track through the College of Agricultural Sciences and Natural Resources (see "Environmental Studies" on page 92) 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 also 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 also must complete an emphasis to provide depth in one of the following areas: anthropology, biology, chemistry, geography, geology, meteorology-climatology, quaternary studies/paleoecology, social sciences, or sociology (through the College of Arts and Sciences); or natural resources (through the College of Agricultural Sciences and Natural Resources).
4. During the senior year, students must complete a "capstone" senior thesis (ENVR 499) under the guidance of a faculty adviser and the environmental studies seminar (ENVR 496).

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 Chief Undergraduate Adviser.

Students interested in majoring in environmental studies through the College of Arts and Sciences are advised to make an initial appointment with the director or chief adviser. Those interested in pursuing a natural resources emphasis should see the Chief Undergraduate Adviser in the College of Agricultural Sciences and Natural Resources. Once a student has selected an area of emphasis, advising regarding the emphasis will be done through the appropriate department. However, the chief adviser 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

- ANTH 473. Ecological Anthropology or 474 Applied & Developmental Anthropology or 476 Human Rights, Environment & Development or 477 Hunters-Gatherers (3 cr)  
 BIOS 202. Global Ecology or 320 Principles of Ecology (3 cr)  
 CHEM 105. Chemistry & the Citizen I or 109 General Chemistry I or 113 Fundamental Chemistry I (4 cr)  
 ENVR 496. Environmental Studies Seminar (1 cr) *See emphasis adviser.*  
 ENVR 499. Senior Thesis (3 cr) *See emphasis adviser.*  
 GEOG 181. Quality of the Environment or NRES 103 Food, Agriculture, and Natural Resource Systems (3 cr)  
 GEOL 101. Physical Geology or GEOL 106 Environmental Geology plus 116 Environmental Geology Lab (4 cr)  
 METR 252. Meteorology plus 251 Meteorology Lab (4 cr)  
 NRES 323. Natural Resources Policy (3 cr)  
 SOCI 444. Social Demography or 446 Environmental Sociology (3 cr)

#### 2a. General Collateral Course Requirements (BS degree)<sup>1</sup>

##### Total Credit Hours: 24-25

- CHEM 110 General Chemistry II or 114 Fundamental Chemistry (4 cr) and 116 Quantitative Chemistry Lab (5 cr)  
 MATH 106 Analytical Geometry & Calculus I (5 cr) and 107 Analytical Geometry & Calculus II (5 cr)  
 PHYS 141 Elementary General Physics and 142 Elementary General Physics (10 cr) or 211 General Physics and 220 Classical Physics Lab and 212 General Physics and 222 Physics Lab (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 – CSCE 150 Intro to Computer Programming (3 cr) or 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)

#### 3. Emphases (BS or BA degree)

##### Total Credit Hours: 18-25

- Anthropology  
 Biological Sciences  
 Chemistry  
 Geography  
 Geology  
 Meteorology-Climate

Natural Resources (*Only available through the College of Agricultural Sciences and Natural Resources*)  
 Quaternary Studies-Paleoecology  
 Social Sciences  
 Sociology

### Anthropology Emphasis in Environmental Studies (BA degree)

#### Total Credit Hours: 18

##### Required from Environmental Studies Core:

ANTH 473/873. 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 474/874. Applied/Developmental Anthropology (3 cr)

##### Regional Background Courses (3 cr) chosen from:

ANTH 350. Indians of Latin America (3 cr)  
 ANTH 351. Peoples & Cultures of Native North America (3 cr)

ANTH 352. Intro to Plains Ethnology (3 cr)  
 ANTH 360. Peoples & Cultures of Oceania (3 cr)  
 ANTH 362. Peoples & Cultures of Africa (3 cr)  
 ANTH 363. Peoples & Cultures of the Arctic (3 cr)  
 ANTH 365. Ethnology of Europe (3 cr)  
 ANTH 366. Peoples & Cultures of East Asia (3 cr)  
 ANTH 417. History of Anthropological Theory (3 cr)  
 ANTH 420. Ethnic Conflict (3 cr)

ANTH 421. The School of Culture in Minorities: Investigations in Educational Anthropology (3 cr)  
 ANTH 434/834. Plains Archaeology (3 cr)  
 ANTH 476. Human Rights, Environment, & Development (3 cr)  
 ANTH 477/877. Hunter-Gatherers (3 cr)  
 ANTH 496. Special Readings in Anthropology (3 cr)

##### Specialty Courses (3 cr) chosen from:

ANTH 432. Archaeological Method & Theory (3 cr)  
 ANTH 446. Palynology (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)  
 GEOG 431. Cultural Geography (3 cr)  
 SOCI 444/844. Social Demography (3 cr)  
 SOCI 446/846. Environmental Sociology (3 cr)

### Biological Sciences Emphasis in Environmental Studies

#### BA Degree–Total Credit Hours: 23-24

BIOS 101 & 101L. General Biology and Lab (4 cr)  
 BIOS 202. Global Ecology (part of core) (3 cr)  
 BIOS 230. Ecology of the Great Plains (3 cr) or 302 Ecology and Evolution (4 cr) or 320 and 322 Ecology and Lab (4 cr)

##### Biodiversity Courses

*Choose two of the following three:*  
 BIOS 109. General Botany (4 cr)  
 BIOS 112. Intro to Zoology (4 cr)  
 BIOS 204. Biodiversity (4 cr)  
 BIOS 312 & 314. Microbiology with Lab (4 cr)

<sup>2</sup>*Choose two advanced organismal biology courses from:*  
 BIOS 374, 381, 385, 386, 441, 447, 455, 471, 473, 476, 477, 482, 487, 488, 492, 493, 494

1. Some emphases have slightly different collateral course requirements.

**BS Degree–Total Credit Hours: 22-25**

BIOS 101 & 101L. General Biology and Lab (4 cr)  
 BIOS 202. Global Ecology (3 cr) (*part of core*) or 302  
 Ecology & Evolution (4 cr)  
 Biochemistry [BIOC 221 (3 cr), 321 (4 cr), or  
 CHEM 431 (3 cr)]

BIOS 320 & 322. Principles of Economy and Lab  
 (4 cr)

*Choose one additional ecology course from:*

BIOS 230. Ecology of Great Plains (3 cr)  
 BIOS 302. Ecology & Evolution (4 cr)  
 BIOS 406. Insect Ecology (3 cr)  
 BIOS 450. Biology of Wildlife Populations (4 cr)  
 BIOS 454. Population & Community Ecology  
 (4 cr)  
 BIOS 457. Microclimate: The Biological  
 Environment (3 cr)  
 BIOS 459. Limnology (4 cr)  
 BIOS 463. Experimental Methods in Animal  
 Behavior (3 cr)  
 BIOS 470. Prairie Ecology (4 cr)

Biodiversity course<sup>3</sup> (select A, B, or C. Two  
 additional ecology courses from above list  
 will satisfy biodiversity requirement and  
 permit speciality in ecology.)

**A. Plant Specialty**

BIOS 109. General Botany (3 cr)  
 BIOS 204. Biodiversity (4 cr)

*One additional advanced organismal botany course such as:*  
 BIOS 374. Survey of Plant Kingdom (4 cr)  
 BIOS 455. Great Plains Flora (3 cr)  
 BIOS 471. Plant Taxonomy (4 cr)

**B. Animal Specialty**

BIOS 112. Intro to Zoology (3 cr) or 204 Biodiversity  
 (4 cr)

*One additional advanced organismal zoology course such as:*  
 BIOS 381, 386, 476, 482, 485, 487, 488, 491,  
 492, 493, 494

**C. Microbe Specialty**

BIOS 312. Fundamentals of Microbiology (3 cr) and  
 313 Microbiology Lab (2 cr) or 314 (1 cr)

*One additional course such as:*

BIOS 447. Soil Microbiology (3 cr)  
 BIOS 473. Freshwater Algae (4 cr)

**Chemistry Emphasis in Environmental Studies (BS degree)****Core and Collateral Courses for BS Degree**

CHEM 109. General Chemistry I (4 cr) and 110  
 General Chemistry II (4 cr) and 221 Elementary  
 Quantitative Analysis (4 cr) **or**  
 113 Fundamental Chemistry I (4 cr) and 114  
 Fundamental Chemistry II (3 cr) and 116  
 Quantitative Chemistry Lab (2 cr)  
 CHEM 251. Organic Chemistry (3 cr) and 252  
 Organic Chemistry and 253 Organic Chemistry  
 Lab (1 cr) and 254 Organic Chemistry Lab (1 cr)  
**or** 261 Organic Chemistry (3 cr) and 262 Organic  
 Chemistry (3 cr) and 263 Organic Chemistry Lab  
 (1-2 cr) and 264 Organic Chemistry Lab (1-2 cr)

CHEM 421. Analytical Chemistry (3 cr)

CHEM 423. Analytical Chemistry Lab (1-2 cr)

CHEM 471. Physical Chemistry and 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),  
 107 Analytic Geometry & Calculus II (5 cr), and  
 108 Analytic Geometry & Calculus III (4 cr)

PHYS 211. General Physics (4 cr)

PHYS 212. General Physics (4 cr)

**Geography Emphasis in Environmental Studies (BA & BS degree)**

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)  
 GEOG 308. Biogeography (3 cr)  
 GEOG 481. Water Resources Seminar (3 cr)  
 GEOG 498. Advanced Special Problems (cr arr)  
 GEOL 450. Geomorphology (3 cr)  
 METR 350. Climatology (3 cr)  
 METR 353. Applied Climatology (3 cr)  
 METR 408. Microclimate: The Biological Environment  
 (3 cr)  
 METR 453. 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 311. Sedimentary Petrology (3 cr)  
 GEOL 340. Structural Geology (3 cr)  
 GEOL 413. Geochemistry (3 cr)  
 GEOL 450. Geomorphology (3 cr)  
 GEOL 488. Groundwater Geology (3 cr)

*Plus a 3-credit-hour course chosen from the following:*

GEOL 210. Mineralogy (3 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)  
 GEOL 481. Environmental & Urban Geology  
 (3 cr)

**Meteorology–Climatology Emphasis in Environmental Studies****Total Credit Hours: 19**

METR 255. Intro to Atmospheric Science (3 cr)  
 METR 350. Climatology (3 cr)  
 METR 452. Synoptic Meteorology (4 cr)

*Plus 9 cr from the following:*

GEOG 450. Climate & Society (3 cr)  
 GEOG 469. Bio-atmospheric Instrumentation  
 (3 cr)  
 METR 353. Applied Climatology (3 cr)  
 METR 408. Microclimate: The Biological  
 Environment (3 cr)

METR 451. Severe Storms Meteorology/  
 Climatology (3 cr)

METR 453. Physical Climatology (3 cr)  
 METR 456. Dynamic Meteorology (3 cr)  
 METR 457. Advanced Synoptic Meteorology/  
 Climatology (3 cr)  
 METR 458. Dynamic Meteorology II (3 cr)  
 METR 466. Physical Meteorology (3 cr)  
 METR 468. Satellite Meteorology (3 cr)  
 METR 495. Internship in Meteorology/  
 Climatology (1-6 cr)  
 METR 498. Advanced Special Problems (cr arr)

**Social Sciences Emphasis in Environmental Studies****Total Credit Hours: 18**

A total of 18 cr from at least three of the  
 participating departments:

**Anthropology**

ANTH 434. Intro to Plains Archaeology (3 cr)  
 ANTH 474. Applied & Developmental Anthropology  
 (3 cr)  
 ANTH 476. Human Rights, Environment & Development  
 (3 cr)  
 ANTH 478. Pro-seminar in Latin American Studies  
 (3 cr) (cross-listed in several departments)

**Economics**

ECON 322. Intro to Development Economics (3 cr)  
 ECON 323. Economic Development of Latin America  
 (3 cr)  
 ECON 389. Current Economic Issues (3 cr)  
 (addresses special themes, as appropriate)

**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 374. Geography of Russia (3 cr)  
 GEOG 375. Geography of Asia (3 cr)  
 GEOG 443. Industrial Location (3 cr)

**Philosophy**

PHIL 220. Elements of Ethics (3 cr)

**Political Science**

POLS 232. Public Issues in America (3 cr) (addresses  
 special themes, as appropriate)

**Sociology**

SOCI 241. Rural Sociology (3 cr)  
 SOCI 242. Urban Sociology (3 cr)  
 SOCI 350. Sociology of the Great Plains (3 cr)  
 SOCI 444. Social Demography (3 cr)  
 SOCI 446. Environmental Sociology (3 cr)  
 SOCI 468. Public Policy & Program Evaluation  
 Research (3 cr)  
 SOCI 480. Inequality: Stratification & Life Changes  
 (3 cr)

**Sociology Emphasis in Environmental Studies****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 cr from the following:*

SOCI 241. Rural Sociology (3 cr)  
 SOCI 242. Urban Sociology (3 cr)  
 SOCI 350. Sociology of the Great Plains (3 cr)  
 SOCI 399. Advanced Readings (1-4 cr)

- Two courses (8 cr) of organismic biology/ecology courses taken at Cedar Point Biological Station (or other approved biology field station) will satisfy the advanced organismal biology course requirement. Recommend BIOS 456 Math Models in Biology as a collateral course substitute.
- Two courses (8 cr) of organismic biology/ecology courses taken at Cedar Point Biological Station (or other approved biological field station) will satisfy biodiversity requirement.

- 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)

## Requirements for the Minor in Environmental Studies

- 18 hours, at least 6 hours of which must be at or above the 300 level. The 18-hour requirement must include the following:

GEOG 181 or NRES 103

ENVR 496

A minimum of 14 hours from among the following:

- ANTH 473  
 BIOS 202, 302 or 320  
 CHEM 105 or 109 or 113  
 GEOL 106 and 116  
 METR 252 and 251  
 NRES 323  
 SOCI 444 or 446

## Courses of Instruction (ENVR)

**496. Environmental Studies Seminar** (1 cr) Prereq: Senior standing and environmental studies major or minor. Topic varies. Series of speakers dealing with topics related to an environmental theme selected for its appropriate and timely nature by the Environmental Studies Coordinating Committee.

**497. Internship in Environmental Studies** (1-4 cr) Prereq: Environmental studies major, prior arrangement with and permission of faculty member in student's area of emphasis. For seniors and some juniors who wish to gain experience in off-campus settings that are directly relevant to environmental studies.

**499. Environmental Studies Senior Thesis** (3 cr) Prereq: Senior standing, environmental studies major. Prior arrangement with faculty adviser in the student's area of emphasis. Students write a thesis under the supervision of the emphasis adviser or a faculty member designated by the adviser in the student's emphasis area. A committee of two (the faculty member guiding the thesis and an additional member with expertise in the thesis topic) reviews the thesis.

## Institute for Ethnic Studies

### (Minor only)

**Director and Undergraduate Adviser: Tom Calhoun** (sociology), 124 Lyman Hall

**Program Coordinators: African American and African Studies**, Patton (English); **Latino and Latin American Studies**, Raffaelli (psychology); and **Native American Studies**, Willis-Esqueda (psychology)

**Faculty:** Awakuni-Swetland (anthropology), Ballard (English), Blake (communication studies), Carranza (sociology), Dorsey (history), González (modern languages), Grajeda (English), Greenwald (history), Kaye (English), Kelley (communication studies), Parker (sociology), Patton (English), Raffaelli (psychology), Vigil (history), Willis-Esqueda (psychology)

Ethnic studies refers to the investigation, exploration, and involvement with those factors and areas that bear on the lives and experiences, both past and present, of the ethnically distinct minority groups in United States society known as Mexican Americans (Chicanos), Native Americans (Indians), and African Americans (Black Americans).

The Institute is interdisciplinary and intercollegiate and includes three programs: African American and African Studies, Latino and Latin American Studies, and Native American Stud-

ies. All professors in the Institute hold joint appointments within the Institute and their disciplines.

Within the Institute a minor can be taken in ethnic studies and several interdisciplinary courses are offered. Courses are intended to offer exposure to the past and present experiences of minority peoples, in the context of the larger society. The intent is to provide a foundation on which individuals may base a critical appraisal of the dynamics of temporary inter-group relations. Students majoring in the humanities, social sciences, and education should find the program especially beneficial. Minors are also available in Native American Studies, African American Studies, African Studies, and Chicano Studies in their respective programs.

## 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 150. African Culture & Civilization (HIST 150) (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 330. Multicultural Education (CURR 330) (3 cr)  
 ETHN 351. Peoples & Cultures of Native North America (ANTH 351) (3 cr)  
 ETHN 352. Intro to Plains Ethnology (ANTH 352) (3 cr)  
 ETHN 357. The History & Culture of the Mexican-American (HIST 357) (3 cr)  
 ETHN 370. The Making of Colonial Mexico (HIST 370) (2-3 cr)  
 ETHN 371. The Shaping of Modern Mexico (HIST 371) (2-3 cr)  
 ETHN 451. Indians of Contemporary North America (ANTH 451) (3 cr)  
 ETHN 481. Minority Groups (SOCI 481) (3 cr)  
 ETHN 485. Africa Since 1800 (HIST 485) (3 cr)  
 HIST 358. The History & Culture of the American Indian (3 cr)  
 MUNM 387. History of American Jazz (3 cr)

## Courses of Instruction (ETHN)

**[ES] 100. Freshmen Seminar-The Minority Experience** (3 cr) Introduction to the interdisciplinary study of American Indians, African Americans, Latinos and other racial minority groups in the United States.

**[ES] 150. African Culture and Civilization** (HIST 150) (3 cr)  
 For course description, see HIST 150.

**[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: Admission to the University Honors Program. A *University Honors Seminar 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.

**[ES][IS] 211. Intercultural Communication** (COMM 211) (3 cr)  
 For course description, see COMM 211.

**[ES][IS] 212 [212c]. Introduction to Cultural Anthropology** (ANTH 212) (3 cr)  
 For course description, see ANTH 212.

**[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.

**[ES] 241. Native American History** (HIST 241) (3 cr)  
 For course description, see HIST 241.

**[ES] 306. African American History, 1619-1930** (HIST 306) (3 cr) Prereq: Sophomore standing or permission. For course description, see HIST 306.

**[ES] 310. Psychology of Immigration** (PSYC 310) (3 cr) Prereq: PSYC 181 or permission. For course description, see PSYC 310.

**[ES][IS] 330. Multicultural Education** (CURR 330) (3 cr) Prereq: Sophomore standing. For course description, see CURR 330.

**350. Indians of Latin America** (ANTH 350) (3 cr) Prereq: 6 hrs of social science. For course description, see ANTH 350.

**[ES] 351. Peoples and Cultures of Native North America** (ANTH 351) (3 cr) Prereq: 6 hrs of social sciences. For course description, see ANTH 351.

**[ES] 352. Introduction to Plains Ethnology** (ANTH 352) (3 cr) Prereq: 6 hrs of social sciences. 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] 370. The Making of Colonial Mexico** (HIST 370) (2-3 cr) Prereq: Sophomore standing or permission. For course description, see HIST 370.

**[ES] 371. The Shaping of Modern Mexico** (HIST 371) (2-3 cr) Prereq: Sophomore standing or permission. 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.

**425. Psychology of Racism** (PSYC 425/825) (3 cr) Prereq: For psychology majors, PSYC 350. For non-majors, any research methods course. For course description, see PSYC 425/825.

**[ES][IS] 448/848. Family Diversity** (SOCI 448/848) (3 cr) Prereq: 9 hrs sociology or related social sciences. For course description, see SOCI 448/848.

**[IS] 451. Indians of Contemporary North America** (ANTH 451/851) (3 cr) Prereq: 12 hrs anthropology and permission. ANTH 351 strongly recommended. For course description, see ANTH 451/851.

**[IS] 464. Native American History** (HIST 464/864) (3 cr) Prereq: Junior standing or permission. 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.

**481/881. 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.

**498. Special Topics** (3-4 cr) Prereq: Permission. Will be used for a variety of different topics.

## 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), Homze (history), Horowitz (modern languages), Kennedy (history), Kleimola (history), A. H. Martinez (modern languages), McClelland (history), Newman (philosophy), 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 371. Politics of the European Union (3 cr)  
POLS 373. Post-communist Politics (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 Nineteenth Century (3 cr) *(sophomore standing)*  
AHIS 346. European Art of the Twentieth Century (3 cr) *(sophomore standing)*  
MODL 234D. Major Themes in World Literature (3 cr)  
MUSC 276G. The Music Experience (3 cr)  
PHIL 232. History of Philosophy (Modern) (3 cr)  
PHIL 333. History of Philosophy (Nineteenth 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 303, 361, 371, 372  
ITAL 301 and 302  
LATN 302, 303, 405  
PORT 301 and 302  
RUSS 303 and 304  
SPAN 300, 307 and 308, 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 365. Ethnology of Europe (3 cr)  
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)*

ECON 422. International Finance (3 cr)

*(Prereq: 210 or 211 and 212)*

ECON 487. The Economy of the Soviet Union (3 cr)

*(Prereq: 210 or 211 and 212)*

ECON 488. The Economics of Socialism (3 cr)

*(Prereq: 210 or 211 and 212)*

GEOG 272. Geography of World Regions (3 cr)

GEOG 374. Geography of Russia (3 cr)

POLS 108. Political Ideas (3 cr)

POLS 273. Russian Politics (3 cr)

POLS 371. Politics of the European Union (3 cr)

POLS 373. Post-communist Politics (3 cr)

POLS 398. Special Topics in European Politics

POLS 483. Ancient & Medieval Political Theory (3 cr)

POLS 484. Modern Political Theory (3 cr)

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 223. Spain & the Spanish Heritage (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 Nineteenth & Twentieth 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 324. Bourbon France (3 cr)

HIST 325. France Since the French Revolution (3 cr)

HIST 327. History of Germany: 1770-1914 (3 cr)

HIST 328. History of Germany: 1914 to the Present (3 cr)

HIST 330. Contemporary Europe (3 cr)

HIST 337. War & Peace in Europe: 1789-1914 (3 cr)

HIST 338. War & Peace in Europe: 1914 to the Present (3 cr)

HIST 361. Eastern Europe & the Balkans to 1815 (3 cr)

HIST 362. Eastern Europe & the Balkans Since 1815 (3 cr)

HIST 414. Medieval Culture (3 cr)

HIST 415. The Origins of the European State (3 cr)

HIST 420. The 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 426. European Diplomatists & Diplomacy (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. Twentieth-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 Nineteenth Century (3 cr)  
 AHIS 346. European Art of the Twentieth Century (3 cr)  
 AHIS 411. Classical Architecture (3 cr)  
 CLAS 206G. Ways of Western Religion (3 cr)  
 CLAS 233. Science in the Classical World (3 cr)  
 ENGL 230. English Authors before 1800 (3 cr)  
 ENGL 231. English Authors after 1800 (3 cr)  
 ENGL 234A. Classic European Authors (3 cr)  
 ENGL 234B. European Authors Since 1660 (3 cr)  
 ENGL 342A. Irish Literature (3 cr)  
 FREN 282/283. French Literature in Translation I & II (3 cr ea)  
 FREN 301/302. Representative Authors I & II (3 cr ea)  
 FREN 321/322. French Civilization I & II (3 cr ea)  
 FREN 422. Topics in French Civilization (3 cr)  
 FREN 445/446. Seventeenth Century I & II (3 cr ea)  
 FREN 449/450. Eighteenth Century I & II (3 cr ea)  
 FREN 453/454. Nineteenth Century I & II (3 cr ea)  
 FREN 457/458. Twentieth Century I & II (3 cr ea)  
 GERM 282/283. German Literature in Translation I & II (3 cr ea)  
 GERM 301/302. Representative Authors I & II (3 cr ea)  
 GERM 321/322. German Civilization I & II (3 cr ea)  
 GERM 446. Seventeenth-Century German Literature (3 cr)  
 GERM 447. Eighteenth-Century Literature (3 cr)  
 GERM 448. Romanticism (3 cr)  
 GERM 449 & 450. Survey of Nineteenth-Century German Literature (3 cr each)  
 GERM 451. From Naturalism to Expressionism (3 cr)  
 GERM 452. From the Weimar Republic into Exile (3 cr)  
 GERM 454. German Literature & Philosophy (2-3 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 230G. Individual in Renaissance Society (3 cr)  
 MODL 234D. Major Themes in World Literature (3 cr)  
 MUSC 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 (Nineteenth-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 & 302. Representative Authors I & II (3 cr ea)  
 RUSS 398. Special Topics in Russian (3 cr)  
 RUSS 441. The Russian Novel (3 cr)  
 RUSS 442. Russian Poetry (3 cr)  
 RUSS 482 & 483. Russian Literature in Translation I & II (3 cr ea)  
 SPAN 282 & 283. Spanish Literature in Translation I & II (3 cr ea)  
 SPAN 314 & 315. Representative Authors of Spain I & II (3 cr ea)  
 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. Nineteenth-Century Spanish Literature (3 cr)  
 SPAN 456. Twentieth-Century Spanish Poetry (3 cr)  
 SPAN 457. Twentieth-Century Spanish Narrative (3 cr)  
 SPAN 458. Twentieth-Century Spanish Drama (3 cr)  
 SPAN 473. Cervantes (3 cr)  
 THEA 335 & 336. History of Theatre I & II (3 cr ea)  
 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, 371, 373, **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.

## Family and Consumer Sciences

### (Minor only)

**Coordinator:** Anne Kopera, 107 Oldfather Hall

## Requirements for the Minor in Family and Consumer Sciences

**Plan B.** At least 12 hours of courses in family and consumer sciences.

## Film Studies

**Chair and Chief Adviser: Professor Wheeler Winston Dixon**, 108 Andrews Hall

**Professors:** Foster (English), Japp (communication studies), Mamiya (art & art history), O'Connor (theatre arts & dance), Owomoyela (English), Potter (philosophy), Read (art & art history), Spann (broadcasting)

**Mary Riepma Ross Film Theatre:** Ladely

The film studies major and minor are interdisciplinary programs with courses in English, art, broadcasting, philosophy, theatre arts and dance, and music which focus directly or implicitly on cinema. These programs are designed for students who wish to ultimately work in film production or 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.

In addition to these required 12 hours of course work, 6 additional hours must be taken from Group A (see below); and 12 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. Other courses may be used with the approval of the Chief Adviser, Professor Wheeler Winston Dixon.

Students must take courses in at least three departments; no more than 12 hours can be taken in any one department, not counting the core courses. The general education core and electives will be those standard for the College of Arts and Sciences.

## 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. Other courses may be used with the approval of the chief adviser. Students must take courses in at least three departments; no more than 12 hours can be taken in any one department.

All students enrolling in courses offered by the Department of Broadcasting must have at least a 2.5 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 Department of Broadcasting Chair. 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.

**NOTE:** Courses starred with an asterisk (\*) are for the major ONLY; all other courses are for either the major or the minor in film studies.

## Group A

### Art and Art History

- 161. Beginning Photography (2 cr)
- 261. Beginning Photography (3 cr)

### Broadcasting

- \*226. Intro to Broadcasting (3 cr)
- \*227. Principles of Radio & Television (3 cr)
- 369. Cinematography/Videography (3 cr)
- \*455/855. Broadcast Programming (3 cr)
- \*456/856. Cable Telecommunications (3 cr)
- \*461/861. Instructional Television (3 cr)
- 469. Advanced Cinematography/Videography (3 cr)
- 473. Broadcast Documentary (3 cr)
- \*499. Independent Study in Broadcasting (3 cr)

### English

- 209. Film: The Documentary (3 cr)
- 213E. Intro to Film History (3 cr)
- 219. Film Genre (3 cr)
- 239. Film Directors (3 cr)
- 259. Writing for Film & TV (3 cr)
- 269. Film Periods (3 cr)
- 313B. The Film Industry (3 cr)
- 349. National Cinemas (3 cr)
- 373. Film Theory & Criticism (3 cr)
- 413/813. Film (3 cr)
- 439/839. Film Directors (3 cr)
- 459/859. Writing for Film & TV (3 cr)

### \*Communication Studies

- \*130. Communication Strategies in Society (3 cr)
- \*198. Special Topics (3 cr)
- \*200. Intro to Communications Studies (3 cr)
- \*211. Intercultural Communication (3 cr)
- \*280. Communication & Popular Culture (3 cr)
- \*380. Gender & Communication (3 cr)
- \*427/827. Instructional Communication (3 cr)
- \*480/880. Critical & Interpretive Research (3 cr)

**Group B**Art and Art History

262. Intermediate Photography (3 cr)  
 263. Color Photography (3 cr)  
 \*264. Alternative Photographic Processes (3 cr)  
 361-362. Advanced Photography I & II (3 cr)  
 \*399. Special Topics in Art (3 cr)  
 461/861-462/862. Advanced Photography III & IV (3 cr)  
 483/883. History of Photography (3 cr)  
 487/887. Photography Since 1960 (3 cr)  
 \*496. Problems in the Studio (3 cr)

Music/Art and Art History/Theatre Arts and Dance

388. Arts of the 20th Century: 1900-1945 (3 cr)  
 389. Arts of the 20th Century: 1945 to Present (3 cr)

Philosophy

327. Aesthetics (3 cr)  
 921. Aesthetics (cr arr)

Theatre Arts and Dance

- 112G. Intro to Theatre (3 cr)  
 114. Basic Acting I (3 cr)  
 115. Basic Acting II (3 cr)  
 201. Technical Theatre Practice (3 cr)  
 202. Play Direction I (2 cr)  
 203. Play Direction II (1 cr)  
 223. Intermediate Acting I (3 cr)  
 224. Intermediate Acting II (3 cr)  
 401/801. Advanced Acting (3 cr)  
 409/809. Advanced Projects in Technical Theatre (1-3 cr)  
 410/810. Stage Lighting I (3 cr)  
 411/811. Stage Lighting II (3 cr)  
 412/812. Scene Design I (3 cr)  
 413/813. Scene Design II (3 cr)  
 \*418. Costume Design (3 cr)  
 420/820. Problems in Technical Production (3 cr)  
 431/831. Advanced Playwriting (3 cr)

## Geography

**Chair:** Steve Lavin, 324 Avery Hall

**Professors:** Amedeo, Hewes (emeritus), Lonsdale (emeritus), McIntosh (emeritus), Rugg (emeritus), Stoddard, Wishart

**Associate Professors:** Archer, Lavin

The Department 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, and cartographic analysis) and businesses (e.g., those engaged in location analysis and market research, in addition to those consulting on environmental, mapping, and planning topics). A geography major also prepares students for graduate-level degrees in 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, which the student, in consultation with his/her adviser, may use to build an optional specialization in cartography, environmental studies, Great Plains studies, historical geography, or locational analysis. Students are encouraged to obtain more information about these emphases from faculty in the Department of Geography.

**Undergraduate Adviser:** Dr. David Wishart, 312 Avery 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. The Geography Department offers specializations in the following areas: climatology, environmental geography, geographical information processing, Great Plains Studies, and historical geography. Additional information about these specializations is available from the Undergraduate Adviser. Students wishing to combine a geography major with a major in meteorology-climatology or with a major in environmental studies 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.

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 [120x]. **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.

[ES][IS] 140 [140x]. **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.

[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.

[ES][IS] 242. **The Geographical Background to World Affairs** (3 cr)

Outline of the geographical background to some of the world's major problems associated with the utilization of the resources of the earth. Series of lectures dealing with general problems, proceeding to regional appraisals.

[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.

[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.

**443/843. Industrial Location** (2-3 cr)

Factors influencing US industrial firms' selection of regions and specific communities, how communities endeavor to attract new industry, and industrial development as a social and environmental issue. Includes visits to development agencies and industrial plants.

[IS] 444/844. **Geodemographics: Theoretical Concepts and Practical Applications** (3 cr)

Geodemography analysis and interpretation of geographical patterns of population size, population composition and population change. Emphasis on applications of geodemographic techniques in fields such as retail site selection, marketing research, environmental impact analysis, public facilities planning, electoral redistricting and the operation and maintenance of socio-economically oriented geographic information systems (GIS).

[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 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.

## Physical Geography

**[ES] 150. Physical Geography** (3 cr) *Students may not earn credit toward the degree in both GEOG 150 and 155.*  
 Basic elements of the physical environment. Introduction to the fields of climatology and meteorology through examination of atmospheric processes. Landforms and the processes responsible for their creation. Modifying work of people within the natural environment.

**[ES] 152. Physical Geography Laboratory** (1 cr) Lab 3. Prereq or parallel: GEOG 150. *Students may not earn credit toward the degree in both GEOG 152 and 155.*  
 Basic elements of the physical environment of our earth and atmosphere. Lab exercises include analysis of: earth-sun relationships; processes responsible for creating the various patterns of weather and climate; the hydrologic cycle and water balance; landforms created by stream flow, glaciers, and wind; and the modifying influences that humans have on our natural earth and atmospheric systems.

**[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 155.*  
 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.

**251. Meteorology Laboratory** (METR 251) (1 cr) Lab 3. Prereq or parallel: METR 252.  
 For course description, see METR 251.

**[ES] 252. Meteorology** (METR 252) (3 cr)  
 For course description, see METR 252.

**[IS] 255. Introduction to Atmospheric Science** (METR 255) (4 cr) Prereq: METR 200, MATH 106, and PHYS 211.  
 For course description, see METR 255.

**[ES] 281. Hydrogeography** (NRES, WATS 281) (3 cr) I  
 Prereq: GEOG 150 or permission.  
 For course description, see NRES 281.

**308. Biogeography** (NRES 308) (3 cr) Prereq: GEOG 150 or BIOS 101, or permission.  
 Introduction to the basic concepts of biogeography, the study of distributions of plants and animals, both past and present. Biogeography is a highly interdisciplinary science, relying heavily on ecology, geological science, and climatology. Global in scope and offers the latest knowledge in understanding organism distributions, and the factors that determine those distributions.

**350. Climatology** (METR 350) (3 cr) Prereq: GEOG 150 or 155 or METR 252.  
 For course description, see METR 350.

**[ES] 353. Applied Climatology** (METR 353) (3 cr) Prereq: One course from the following: GEOG 155, METR 252, 350; or permission.  
 For course description, see METR 353.

**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: Junior standing, major in any of the agricultural or physical or biological sciences or engineering, METR 251 or 350 or equivalent, or permission.  
*Offered spring semester of odd-numbered calendar years*  
 For course description, see NRES 452/852.

**451/851. Severe Storms Meteorology/Climatology** (METR 451/851) (3 cr) Prereq: METR/GEOG 255.  
 For course description, see METR 451/851.

**452/852. Synoptic Meteorology** (METR 452/852) (4 cr) Lec 3, lab 2. Prereq: METR/GEOG 255.  
 For course description, see METR 452/852.

**453/853. Physical Climatology** (METR 453/853) (3 cr) Prereq: METR/GEOG 255.  
 For course description, see METR 453/853.

**[IS] 454/854. Regional Climatology** (METR 454/854) (3 cr) Prereq: METR 351.  
 For course description, see METR 454/854.

**456/856. Dynamic Meteorology** (METR 456/856) (3 cr) Prereq: METR/GEOG 255, MATH 208, and PHYS 212.  
 For course description, see METR 456/856.

**457/857. Advanced Synoptic Meteorology-Climate** (METR 457/857) (4 cr) Lec 3, lab 1. Prereq: METR/GEOG 452/852.  
 For course description, see METR 457/857.

**458/858. Dynamic Meteorology II** (METR 458/858) (3 cr) Prereq: METR/GEOG 456/856 and CSCE 150.  
 For course description, see METR 458/858.

**466/866. Physical Meteorology** (METR 466/866) (4 cr) Prereq: METR 255, CSCE 150, and PHYS 212.  
 For course description, see METR 466/866.

**[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.

**468/868. Satellite Meteorology** (METR 468/868) (3 cr) Prereq: METR/GEOG 452/852 or parallel.  
 For course description, see METR 468/868.

**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

**170. Introduction to Great Plains Studies** (GPSP 100; ANTH, NRES, SOCI 170) (3 cr)  
 For course description, see GPSP 100.

**[ES] 271 [271f] [271x]. 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.

**[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 [372f]. European Landscapes and Cultures** (3 cr)  
 Physical and cultural factors in the geography of the continent. Discussion of major natural regions, distribution of resources, and industrial development. Geographic aspects of current economic and political problems. Principal countries and their present problems from a geographic point of view.

**[ES] 374. Geography of Russia** (3 cr)  
 Lands and peoples of Russia and affiliated republics (Ukraine, etc.) with focus on the natural environment, the historical geography, nationality and demographic issues, the character of cities, geographic patterns of agriculture and industry, and current and prospective geopolitical issues.

**[ES][IS] 375 [375f] [375x]. 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 [378f]. 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] 470. Senior Seminar in Great Plains Studies** (GPSP 400) (3 cr)  
 For course description, see GPSP 400.

**[IS] 478/878. Pro-seminar in Latin American Studies** (ANTH, EDPS, HIST, MODL, POLS, SOCI 478/878) (3-6 cr, max 6) Prereq: Junior standing and permission.  
 For course description, see ANTH 478/878.

## Techniques

**[IS] 217. Map and Air Photo Interpretation** (3 cr) Lec 2, plus one special session TBA.

Introduction to map and air photo interpretation. Emphasis on the practical applications of maps and air photos and the interpretation of natural and cultural features. Properties of large-scale plans and topographic maps, field use of maps, interpretation of statistical maps and diagrams, underlying concepts of photogrammetry and air photo interpretation, and the uses and limitations of small-scale map projections

**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.

**318. Aerial Photography in Land and Water Use** (NRES 318) (3 cr) Lec 2, rct 1, lab 2.

Applied photogrammetry and aerial photo interpretation as these areas relate to natural resources. Use of aerial photographs and photogrammetric principles by a land manager for mapping, inventorying, managing, and administering natural resources emphasized.

**411/811. Field Geography** (2-3 cr)

Techniques and practices used in making geographical observations in the field.

**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 180 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 in courses in the earth or natural resource sciences including GEOG 150 and 152 or 155; or permission.

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 hands-on 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. Remote Sensing II: Non-Photographic Sensors** (GEOG, AGRO 419/819) (4 cr) Lec 3, lab 2. Prereq: GEOG 418/818 and 6 hours in major; or permission.

Introduction to the physical basis of remote sensing with emphasis on non-photographic sensors typically employed for environmental monitoring. Treats those systems operating within the electromagnetic continuum from ultraviolet through microwave.

**420/820. Remote Sensing III: Digital Image Analysis** (4 cr) Lec 3, lab 2. Prereq: GEOG 418/818 and GEOG 419/819; or equivalent, or permission.

Fundamental principles and methods of digital image processing of remotely sensed data. Focuses on the biophysical basis of remote sensing and the various sensor systems typically used for terrestrial monitoring. Algorithms discussed for the preprocessing, enhancement, classification and mapping of digital data for agricultural, urban, geological, environmental, and natural resource management problems.

**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 hands-on 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.

Refer to the Graduate Bulletin for 900-level courses.

## 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.

**495/895. Internship in Meteorology/Climatology** (1-6 cr) Prereq: Permission. METR 495 may be taken pass/no pass for the major and/or minor in meteorology/climatology. Application of meteorology/climatology learning with on-the-job training.

**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:** Norman Smith, 214 Bessey

**Professors:** Dewey, Grew, Hunt, Lindsley-Griffin, Loope, Pederson, Smith, Swinehart, Treves, Voorhies, Watkins, Zlotnik

**Associate Professors:** Anderson, Blum, Fritz, Goble, Harwood, Kettler, Rowe, Swinehart

**Assistant Professors:** Holmes, Mason

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 arts, master of science, 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 (P/N) 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:** David K. Watkins, 330 Bessey Hall (472-2177)

## 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 25 hours in six course courses (GEOL 101, 103, 210, 212, 310, and 460). An additional 17 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 201 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, 104H, 109, 112, 201, 204, 301  
CHEM 110 or 114, 116 or 221, (251 and 253 or (261 and 263), 471  
MATH 208, 211, 380  
STAT 180  
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, 212. 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.

**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, 212, and 310. 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 Structural Geology 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:** Mark Anderson, 305B Bessey Hall, (472-6656)

## Requirements for the Major in Meteorology-Climatology

The following curriculum represents the minimum requirements for a major in meteorology-climatology.

**GROUP A: Core Courses (32 hrs)**

METR 200, 255, 351, 452, 456, 457, 458, 466, and 468

**GROUP B: Electives (12 hrs chosen from following courses)**

METR 399, 408, 450, 451, 453, 454, 469, 495, or 498

**GROUP C: Required Related Courses (36 hrs)**

MATH 106, 107, 208, 221; STAT 380; PHYS 211 & 220, 212; CHEM 109; CSCE 150;

**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 programs, majors will be required to complete a first stage exam over basic knowledge after having completed METR 255 and 351, and a second stage exam over intermediate and advanced meteorology/climatology knowledge after having completed METR 457, 458 and 466. The undergraduate adviser will inform students of the scheduling and format of the 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 Meteorology–Climatology

### Meteorology emphasis:

METR 200, 255, 351, 452, 456, 466

### Climatology emphasis:

METR 200, 351, 353, and 9 hours from the following courses: METR 408, 450, 451, 453, 454, or 498.

## Courses of Instruction (GEOL)

### Geology

**[ES] 100. Introduction to Geology** (3 cr) Lec 3. GEOL 100 does not fulfill the prerequisite requirement for any course in geology. Credit towards the degree may be earned in only one of GEOL 100 or 101.

Background in physical geology for non-majors. Topics include rocks and minerals, surficial processes, plate tectonics, and applied geology.

**[ES] 101. Physical Geology** (4 cr) Lec 3, lab 3.

Minerals, rocks, and ores; the surface features and internal character of the earth and the forces that are constantly changing it. Lab includes examination of minerals and rocks and investigation of geological processes and their products. Lab includes field trips.

**[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.

**[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*.

### [ES] 109. Oceanography

(3 cr) Lec 3. Introduction to physical oceanography, the geologic aspects of biologic oceanography, and human impact on the oceans.

### 210. Mineralogy

(4 cr) Lec 3, lab 3, rct 3. Prereq: CHEM 109 or 113 preceding or parallel; GEOL 101.

Crystal chemistry, symmetry and morphology. Common rock-forming and ore minerals. Applications of X-ray crystallography and optical mineralogy to mineral identification and analysis.

### 212. Geochemistry

(3 cr) Lec 3. Prereq: MATH 106; CHEM 109 or 113; GEOL 101 or 106 or 109.

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.

### 299. Independent Study in Geology

(1-3 cr) Prereq: Permission.

### [ES][IS] 305. Geology and Resources of the Middle East

(3 cr) Prereq: Permission.

Geologic processes responsible for the physiography and landforms of the Middle East. The geologic distribution of natural resources, including water, mineral, and oil and gas reserves, and their impact on the region with its consequent influence on world relationships.

### 310. Petrology

(4 cr) Lec 3, lab 4. Prereq: GEOL 210 and 212. *Required field trips.*

Igneous, sedimentary and metamorphic rocks and processes, especially their descriptive parameters, occurrence, origin and significance in earth history.

### 320. Stratigraphy

(3 cr) Lec 2, lab 3. Prereq: GEOL 103 or 105. *Required field trips.*

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] 330. Paleobiology

(3 cr) Lec 2, lab 3. Prereq: GEOL 320. *Open to biological science majors by permission.*

Introduction to the morphology, classification, and evolution of fossil organisms and their uses in biostratigraphy and paleoecology.

### [IS] 340. Structural Geology

(3 cr) Lec 2, lab 3. Prereq: GEOL 320; MATH 102 or equivalent; PHYS 141 or 211, or parallel; or permission.

Folding and faulting of rocks, types of texture and rock structure, cleavage, joints, dikes, and inconformities; structural interpretation of geologic maps; plate tectonics, mountain belts, and regional structures.

### 361. Soils, Environment and Water Quality

(AGRO SOIL, WATS 361) (3 cr, II) Lec 3. Prereq: PHYS 141 or equivalent, one year chemistry, one semester biology and one of the following: AGRO 153 or GEOL 101 or CHEM 116 or CHEM 221.

For course description, see SOIL 361.

### 411/811. Petrography

(1-2 cr) Lab 6. Prereq: GEOL 310.

Principles and methods of identification and description of igneous and metamorphic rocks in thin-sections.

### 414/814. Clay Mineralogy

(3 cr) Lec 2, lab 3. Prereq: GEOL 210; CHEM 113 or equivalent.

Structures and properties of common clay minerals; their formation and geologic/pedologic distribution. Analysis by x-ray diffraction, electron microscopy, and thermal techniques.

### 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 212 and CHEM 251, or permission.

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.

### 419/819. Remote Sensing II: Non-Photographic Sensors

(AGRO, GEOG 419/819) (4 cr) Lec 3, lab 2.

Prereq: GEOG 418/818 and 6 hours of student's major department 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 Sedimentology

(3 cr) Lec 2, lab 3. Prereq: GEOL 310.

Description and interpretation of carbonate and evaporite sediments and rocks with emphasis on petrography and field studies.

### 422/822. Marine Geology

(3 cr) Lec 3. Prereq: GEOL 310.

Geology of the oceanic realm including formation of oceanic crust, circulation, geochemistry, pelagic sediments and their diagenesis, correlation, and oceanic history.

### 423/823. Quaternary Ecology and Climate

(BIOS 436/836) (3 cr) Lec 3. Prereq: 12 hrs geology or biological sciences.

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.

### 431/831. Micropaleontology

(3 cr) Lec 2, lab 3. Prereq: GEOL 320; open to biological sciences majors with permission.

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.

### 439/839. Marine Ecology and Paleoecology

(BIOS 461/861) (2-3 cr) Lec 2, lab 0-3. Prereq: GEOL 330 or BIOS 220, or permission. Geology majors should register for lab.

Introduction to the fundamentals of marine ecology and their application to paleoecology. Lab includes several field trips.

### [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 or equivalent; PHYS 211 or equivalent; GEOL 101 or 106 or equivalent; or permission.

Introduction to the principles of seismic, ground-penetrating radar, and borehole 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 or equivalent, PHYS 211 or equivalent, 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

(ANTH 446/846) (3 cr) Prereq: 12 hrs geology.

For course description, see ANTH 446/846.

### 450/850. Surficial Processes and Landscape Evolution

(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.

**[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.

**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.

**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.

**481/881. Environmental and Urban Geology** (3 cr) Lec 3, lab 2. Prereq: 12 hrs geology, or either GEOG 464/864, or CRPL 411/811, or permission. Significance of regional and local geologic materials and processes that affect land use potential as areas undergo urbanization.

**488/888. Groundwater Geology** (3 cr) Prereq: GEOL 101, MATH 107, or equivalent, and senior or graduate standing. Occurrence, movement, and development of water in the geologic environment.

**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 212 or permission.

**869. Regional Field Geology** (1 cr) Prereq: 12 hrs geology including GEOL 103 and 330. Prereq or parallel: GEOL 427/827.

**889. Hydrogeology** (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)

**[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.

**251. Meteorology Laboratory** (GEOG 251) (1 cr) Lab 3. Prereq or parallel: METR/GEOG 252 or parallel. Various meteorological phenomena by means of laboratory demonstrations, exercises, and problem solving. Lab investigations include circulation systems, precipitation processes, severe weather, air pollution, and the use of weather radar. Concepts of weather forecasting introduced.

**[ES] 252. Meteorology** (GEOG 252) (3 cr) Recommended parallel METR/GEOG 251. Physical behavior of the atmosphere; elements of weather and climate and their distribution over the earth; weather map analysis and forecasting; applications of atmospheric science to agriculture, aviation, business, and industry.

**[IS] 255. Introduction to Atmospheric Science** (GEOG 255) (4 cr) Prereq: METR 200, MATH 106, and PHYS 211. Conceptual foundations for synoptic and dynamic meteorology. Meteorological data analysis, the dynamics of atmospheric motions, and atmospheric thermodynamics.

**350. Climatology** (GEOG 350) (3 cr) Prereq: GEOG 150 or 155 or METR/GEOG 252.

Factors that give rise to climatic differences as well as the spatial and temporal variations in climate. Examples of climatic applications reviewed.

**[ES][IS] 351. Basic and Applied Climatology** (3 cr) Prereq: METR 200 or permission.

Processes that give rise to spatial and temporal differences in climate. Various interrelationships between humans and climate including: influence of climate on building styles, the economy, water resources, human health, and society as well as humans' inadvertent and purposeful modification of the atmosphere.

**[ES] 353. Applied Climatology** (GEOG 353) (3 cr) Prereq: One of the following courses: GEOG 155, METR/GEOG 252, or METR/GEOG 350, or permission.

Various interrelationships between humans and climate. Influence of climate on such activities as agriculture, architecture, forestry, commerce, hydrology, health, recreation, and tourism. Humans' inadvertent impact upon the atmosphere and climate as well as such deliberate impacts as cloud seeding activities.

**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.

**450/850. Climate and Society** (AGRO, GEOG 450/850; NRES 452/852) (3 cr) Prereq: Junior standing, major in any of the agricultural or physical or biological sciences or engineering, METR 251 or 350 or equivalent, or permission. *Offered spring semester of odd-numbered calendar years.* For course description, see NRES 452/852.

**451/851. Severe Storms Meteorology/Climatology** (GEOG 451/851) (3 cr) Prereq: METR/GEOG 255. Dynamics of various types of severe weather (blizzards, flash floods, lightning, thunderstorms and winter and summer tornado outbreaks), with emphasis on an interpretation of the numerical and statistical models utilized to forecast these phenomena. Numerous synoptic case studies of severe weather occurrences supplemented by review of recent research findings as presented in the professional journals.

**452/852. Synoptic Meteorology** (GEOG 452/852) (4 cr) Lec 3, lab 2. Prereq: METR/GEOG 255.

Dynamic and thermodynamic concepts and principles are applied to synoptic-scale weather forecasting. Dynamics, energetics, structure, evolution, and motion of extratropical cyclones emphasized. Meteorological communications, interpretation and analysis of weather maps, and thermodynamic diagrams covered during laboratory periods.

**453/853. Physical Climatology** (GEOG 453/853) (3 cr) Prereq: METR/GEOG 255.

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] 454/854. Regional Climatology** (GEOG 454/854) (3 cr) Prereq: METR 351.

Regional differentiation of the climates of the earth on both a descriptive and dynamic basis. Analysis of the chief systems of climatic classification.

**456/856. Dynamic Meteorology** (GEOG 456/856) (3 cr) Prereq: METR/GEOG 255, MATH 208, and PHYS 212.

Equations of thermodynamics, momentum, and continuity are derived and applied to atmospheric motion. Energy conservation, flows and conversions.

**457/857. Advanced Synoptic Meteorology-Climatology** (GEOG 457/857) (4 cr) Lec 3, lab 1. Prereq: METR/GEOG 452/852.

Analysis and forecasting of subsynoptic scale weather systems. Includes convection, thunderstorm models, severe local storm forecasting techniques, mesoscale convective complexes, vertical cross-sections, isentropic analysis, and weather radar.

**458/858. Dynamic Meteorology II** (GEOG 458/858) (3 cr) Prereq: METR/GEOG 456/856 and CSCE 150.

Applications of the principles of dynamic meteorology to the problems of forecasting and meteorological problems.

**466/866. Physical Meteorology** (GEOG 466/866) (4 cr) Prereq: METR 255, CSCE 150, and PHYS 212.

Physical principles that provide the foundation for meteorology, including the absorption, scattering, and transmission of radiation in the atmosphere, cloud physics, precipitation process, atmospheric optics and lightning.

**468/868. Satellite Meteorology** (GEOG 468/868) (3 cr) Prereq: METR/GEOG 452/852 or parallel.

Concepts and principles related to meteorological observations from satellites. Emphasis on applications to weather analysis and forecasting.

**469/869. Bio-atmospheric Instrumentation** (AGRO, GEOG, MSYM 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.

**495/895. Internship in Meteorology/Climatology** (1-6 cr) Prereq: Permission. *P/N only. Only 3 cr may apply for the major and/or the minor in meteorology/climatology.* Application of meteorology/climatology learning with on-the-job training.

**498. 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.

## Great Plains Studies

**Director:** James Stubbendieck, 1213 Oldfather Hall

**Chief Adviser:** Charles Braithwaite, 1214 Oldfather Hall

Great Plains Studies is an interdisciplinary/intercollegiate program of the Center for Great Plains Studies, 1213 Oldfather Hall. 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 cooperating departments and are listed below. Cooperating departments include agricultural economics; agronomy; anthropology; architecture; art and art history; biological sciences; community and regional planning; English; ethnic studies; forestry, fisheries, and wildlife; geography; geology; history; modern languages and literatures; music; 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 100, Introduction to Great Plains Studies (3 cr), and GPSP 400, Great Plains Studies Seminar (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 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 will also assign an adviser for each student from among the faculty fellows of the Center. Up to 5 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 the Internships/Cooperative Education Office 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 Senior Seminar, GPSP 400. It should include the research paper from the Great Plains Studies Seminar, 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 100. Introductory Class (3 cr)

GPSP 400. Senior Seminar (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)

ARCH 497K. Great Plains Architecture (3 cr)

ENGL 211A. Literature of the Plains (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 Plains Archaeology (3 cr)

GEOG 334. Historical Geography of the Great Plains (3 cr)

HIST 360. History of the Great Plains (3 cr)

HIST 465. History of Plains Indians (3 cr)

#### Natural Environment

BIOS 230. Ecology of 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. Intro to Plains Ethnology (3 cr)

POLS 225. Nebraska Government & Politics (3 cr)

SOCI 350. Sociology of the Great Plains (3 cr)

## B. Courses at Large

### Great Plains Courses at Large

- AECN 201. Farm & Ranch Management (4 cr)  
 AECN 265. Resource & Environmental Economics (3 cr)  
 AECN 376. Rural Community Economics (3 cr)  
 AECN 388. Ethics in Agriculture & Natural Resources (3 cr)  
 AECN 442. Agricultural Policy (3 cr)  
 AGRO 440. The Range Ecosystem (3 cr)  
 AGRO 445. Livestock Management on Range & Pasture (3 cr)  
 AGRO 475. Water Quality Strategy (3 cr)  
 ANTH 451. Indians of Contemporary North America (3 cr)  
 BIOS 455. Great Plains Flora (3 cr)  
 BIOS 459. Limnology (4 cr)  
*(Offered at Cedar Point Biological Station)*  
 BIOS 470. Prairie Ecology (4 cr)  
*(Offered at Cedar Point Biological Station)*  
 BIOS 482. Field Entomology (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 491. Ichthyology (4 cr)  
*(Offered at Cedar Point Biological Station)*  
 BIOS 494. Ornithology (4 cr)  
*(Offered at Cedar Point Biological Station)*  
 ENGL 405K. Canadian Fiction (3 cr)  
 ENGL 411B. Plains Literature (3 cr)  
 ENGL 445D. Chicano Literature (3 cr)  
 ENGL 445E. Native American Literature (3 cr)  
 GEOG 370. Geography of Nebraska (2-3 cr)  
 HIST 352. American Frontier in the Nineteenth Century (2-3 cr)  
 HIST 358. The History & Culture of the American Indian (3 cr)  
 HIST 359. Nebraska History (3 cr)  
 MODL 101, 102. Lakota Sioux (5 cr each)  
 MUSC 489. American Music (2-3 cr)  
 NRES 415. Water Resources Seminar (1 cr)  
 SOCI 446. Environmental Sociology (3 cr)

## Courses of Instruction (GPSP)

**100. Introduction to Great Plains Studies** (ANTH, GEOG, NRES, SOCI 170) (3 cr) *Required for Great Plains Studies majors and minors.*

Interdisciplinary introductory course, including 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. Senior Seminar in Great Plains Studies** (GEOG 470) (3 cr) *Should be taken only by students who have taken one or more courses dealing with the Great Plains; required for Great Plains Studies majors and minors.*

Interdisciplinary course; topic varies.

## History

**Chair: Dane Kennedy**, 609 Oldfather Hall

**Professors:** Ambrosius, Braeman, Cahan, Coble, Kennedy, Kleimola, Levin, Maslowski, Moulton, Rader, Wunder

**Associate Professors:** Berger, Burnett, Coope, Dorsey, Mahoney, Steinweis, Winkle

**Assistant Professors:** Gorman, Greenwald, Miller, Porsild

The Department of History offers topical and period courses of general cultural and educational value to all University students to broaden their range of 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 vocational 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

All prospective majors must consult with the departmental chief adviser. The minimum requirement for a major in history is 32 credit hours. This requirement must include the following:

1. HIST 100 (preferably in the freshman year) or 6 hours in pre-1789 European history.
2. Six credit hours in United States history.
3. Six credit hours in European history (including English, but not HIST 100).
4. Six credit hours in either Latin American, Asian, or African history.
5. Six credit hours in the pre-1789 period (not including HIST 100).
6. Twelve credit hours at the 300 and/or 400 level.
7. One of the following undergraduate seminars: HIST 288 (Intro to Historical Methods) for freshmen and sophomores only, or either HIST 487 (The Nature of History) or HIST 488 (The Historian's Craft) for juniors and seniors only. If qualified to do so, a student may write an honors thesis as an alternative to a seminar.

**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 (P/N) for either a major or minor (Plan A or Plan B). This provision excludes HIST 398, which can only be taken P/N.

**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*.

The Department of History participates in the Institute for International Studies and the programs in Medieval and Renaissance Studies, Religious Studies, Urban Studies, Film Studies, and Women's Studies.

## Courses of Instruction (HIST)

**NOTE:** There are no prerequisites for history courses below the 300 level. It is advisable, however, for students to begin with HIST 100.

**[ES][IS] 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.

**[ES][IS] 100H. Honors: Western Civilization to 1715 (3 cr)**

(3 cr) Prereq: Good standing in the University Honors Program or by invitation or permission. For course description, see HIST 100.

**[ES][IS] 101 [101x]. 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.

**[ES][IS] 101H. Honors: Western Civilization Since 1715 (3 cr)**

(3 cr) Prereq: Good standing in the University Honors Program or by invitation or permission. For course description, see HIST 101.

**[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.

**[ES][IS] 120. World History (3 cr)**

Survey of world history from early human communities to the present. General patterns of human experience: modes of production, structures of power, systems of belief. Provides a fuller appreciation of the similarities and differences that exist among the world's major regions and cultural traditions.

**[ES] 150. African Culture and Civilization (ETHN 150) (3 cr)**

Broad interpretative survey of the major features that have shaped modern African life.

**[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.

**[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.

**[ES][IS] 189H. University Honors Seminar (3 cr)**

Prereq: Admission to the University Honors Program or by invitation. *A University Honors Seminar 189H is required of all students in the University Honors Program.*

Topics vary.

**198. Special Topics in History (1-4 cr)**

Includes freshman seminars.

**[ES] 201 [201x]. 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.

**[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.

**[ES] 202 [202x]. American History After 1877 (3 cr)**

Emphasis on the political, economic, and social problems accompanying America's rise as an industrialized world power.

**[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.

**[ES] 209. Ancient Civilizations of the Middle East to 500 BCE (CLAS 209) (3 cr)**

Birth and growth of ancient Western civilization. Beginning with the agricultural revolution, the rise of the ancient civilizations of Sumer, Babylon, Egypt, Crete (and by way of comparison, the Indus), is traced as these in turn yield to the Hittites, Assyrians, Israelites, Persians, and various other civilizations.

**[ES] 210. Ancient Greece and Rome 500 BC-335 AD (3 cr)**

Origin and nature of the civilizations of ancient Greece and Rome; their aristocracies, oligarchies, democracies, and imperialisms. Differing *mores* of Greeks and Romans arising out of their common racial heritage but accounting for cultural difference, analyzed.

**[ES] 211 [211x]. 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 [212x]. 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.

**[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.

**[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.

**[ES] 219. Introduction to Jewish History (3 cr)**

Survey of the history of the Jewish people from Biblical times to the present. Includes 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] 220. History of Christianity (3 cr)**

Impact of the Judaeo-Christian tradition upon the development of Western civilization.

**[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] 222. History of Sport (3 cr)**

Historical examination of the interrelationship of sport and society from ancient Greece to twentieth-century America.

**[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.

**[ES] 225. Women in History (3 cr)**

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.

**[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.

**[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.

**[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.

**[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 Nineteenth and Twentieth 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.

**[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.

**[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.

**[IS] 288. Introduction to Historical Methods (3 cr)**

Prereq: Not open to students with more than 60 credit hours. Seminar introducing methods used in the research and writing of history. Includes developing library skills, finding sources, analyzing documents, compiling bibliographies, writing book reviews, and preparing a term paper.

**298. Special Topics in History (1-3 cr)**

Topics vary each term.

**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.

**303/303. 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.

**304/304. 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. Afro-American History, 1619-1930 (ETHN 306) (3 cr)**

Prereq: Sophomore standing or permission. Covers Afro-American history from the slave trade through the 1920s. Includes 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; the difficult half century of adjustment after emancipation; and the ideas of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey.

[ES] **307/807. Early Christianity** (CLAS 307/807, RELG 307) (3 cr)  
For course description, see CLAS 307/807.

[ES] **308. History of Comparative Religion** (CLAS, RELG 308) (3 cr)  
For course description, see CLAS 308.

**311/811. 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.

**321. The Age of the Renaissance and Reformation** (3 cr) Prereq: Sophomore standing or permission.  
Survey of cultural and intellectual developments from the dawn of the Italian Renaissance through the establishment of the Protestant Reformation in northern Europe, with emphasis on 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.

**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.

**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.

**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.

[ES] **331. Ancient Israel** (CLAS, JUDS 331) (3 cr) Prereq: Sophomore standing or permission.  
Exploration of 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. Attention to both the literary works and material remains of the Israelites, as well as evidence from surrounding cultures.

[ES] **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 18th 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.

**334. The Founding of American Civilization, 1607-1750** (3 cr) Prereq: Sophomore standing or permission.  
Investigation of the place of the American colonies within the first British Empire with stress on the English institutional and ideological background, the establishment of a multi-ethnic and religious society, immigration, economic and political relations within an imperial system, and international rivalries.

**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.

**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.

**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.

[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. The Early American Frontier** (3 cr) Prereq: Sophomore standing or permission.  
Survey of the American frontier experience from earliest times to the 1830s, with emphasis on white, black, and Native American interrelationships as settlement occurs in the Atlantic colonies, Ohio Valley, and the Old Northwest, Appalachian Mountains region, piedmont areas, and the Old Southwest.

**352/852. American Frontier in the Nineteenth Century** (2-3 cr) Prereq: Sophomore standing or permission.  
Expansion of the United States across the continent with special emphasis on social structure, mobility, and cultural factors; special attention is given to the Great Plains frontier.

**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.

**[ES] 358. The History and Culture of the American Indian** (3 cr) Prereq: Sophomore standing or permission. History of Indian tribes and cultures in the Americas beginning with the Spanish conquest and emphasizing the Indian heritage and Indian policies of Europe and America. Recent history of the Indian as determined by the actions, policies, and attitudes of white America considered.

**359 [359X]. Nebraska History** (3 cr) Prereq: Sophomore standing or permission. Survey of the political, economic, and social development of Nebraska from the earliest exploration to the present.

**360. History of the Great Plains** (3 cr) Prereq: Sophomore standing or permission. History of the Great Plains from the point of view of cultural modifications wrought by environmental influence. Includes the clash of Indian and white cultures, the fur trade, transportation developments, settlement patterns, ethnic groups, the cattle business, the problem of violence, and the influence of technological changes. Recent history includes political reform movements, the impact of drought, and demographic trends.

**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] 370. The Making of Colonial Mexico** (ETHN 370) (2-3 cr) Prereq: Sophomore standing or permission. Survey of colonial Mexico from the preconquest (thirteenth century) to independence (1821), emphasizing the foundation and development of political, social, economic, and religious patterns during the period.

**[ES] 371. The Shaping of Modern Mexico** (ETHN 371) (2-3 cr) Prereq: Sophomore standing or permission. 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 Twentieth-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 BC to 1800 AD).

**[ES] 384/884. History of Modern China** (3 cr) Prereq: Sophomore standing or permission. Western invasion of China, the collapse of the traditional society, the rise of revolutionary movements, and the formation of the People's Republic.

**396. Special Problems** (1-4 cr) Prereq: Open to all undergraduates with permission.

**397. Special Topics in History** (2-3 cr) Topics vary depending on the instructor.

**398. Internship in History** (3 cr) Prereq: Permission of the chief adviser in the history department. *P/N only.* Internship program involving community, state, or federal institutions.

**399H. Honors Thesis** (3 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences. *A student interested in writing an Honors Thesis normally should take HIST 488 before enrolling for 399H. Inquire with your history adviser about the matter.*

**[IS] 401/801. Documentary Editing** (3 cr) Prereq: Junior standing or permission. Emphasizes historical editing but pays attention to literary editing as well. Idea development, proposal writing, preparation (collection, organization, control, and selection of manuscripts), transcription of manuscripts, annotation and editorial apparatus, and preparation for publication. Other topics: interpretation in editing, types of publication, proofreading, indexing, and variety in editing.

**[IS][IS] 409/809. Religion of Late Western Antiquity** (CLAS 409/809, RELG 409) (3 cr) For course description, see CLAS 409/809.

**[IS] 410/810. The Ancient Near East** (3 cr) Prereq: Junior standing or permission.

Intensive study of the primary civilizations in the Nile, the Tigris and Euphrates, and the Indus river valleys, as well as secondary civilizations in these general areas to ca. 1200 BC.

**[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 BC. 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] 415/815. Origins of the European State** (3 cr) Prereq: Junior standing or permission.

Foundations of dominance in primitive Germanic society; monarchy and local government in the early Middle Ages; land and money as power in the central Middle Ages; early public administration; social ethics reflected in political concepts and theories; central government in theory and practice; the European "state system" at the end of the Middle Ages.

**[IS] 417/817. The Roman Revolution, 133 BC-68 AD** (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] 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 Age of Religious Reform, 1300-1650** (3 cr) Prereq: Junior standing or permission.

Stresses the cultural and intellectual developments of the Reformation against their social backgrounds. Concentration on the religious and political events of the sixteenth century, later medieval antecedents receive attention. Transition from medieval to modern Christianity, considering the problems of the secularization of religion and the role played by the Reformation in laying the foundations of modern Europe.

**[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 Biographies** (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. Twentieth-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] 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 US** (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] 457/857. US Economic History I** (ECON 457/857) (3 cr) Prereq: ECON 210, or both 211 and 212.

For course description, see ECON 457/857.

**[IS] 458/858. US Economic History II** (ECON 458/858) (3 cr) Prereq: ECON 210, or both 211 and 212.

For course description, see ECON 458/858.

**[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.

**[IS] 464/864. Native American History** (ETHN 464) (3 cr) Prereq: Junior standing or permission.

Readings and discussions that cover in depth one or more central issues in Native American history. Includes Native Americans and the environment, Native Americans in the 19th or 20th 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 or permission.

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] 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**

(ANTH, EDPS, GEOG, MODL, POLS, SOCI 478/878) (3-6 cr, max 6) Prereq: Junior standing and permission.

For course description, see ANTH 478/878.

**479/879. Pro-seminar in International Relations I**

(AECN \*467; ANTH 479/879; ECON, POLS, SOCI 466/866; GEOG 448/848) (3 cr) Prereq: Senior standing and permission. *Open to students with an interest in international relations*

For course description, see POLS 466/866.

**[IS] 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 282 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** (3 cr) Prereq:

Junior standing or permission.

Survey of the region from the Stone Age to the evolution of the political, economic, legal and social framework of apartheid in South Africa and the recent efforts to achieve political accommodation.

**[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.

**[IS] 488. The Historian's Craft** (3 cr) Prereq: Junior standing or permission.

Research seminar introducing the experience of writing history based upon the student's independent research. Covers the use of bibliographical guides and catalogs as well as scholarly journals, and discusses various historical methodologies, the evaluation of evidence, and the definition of historical problems. Write a research paper.

**489. Reading Course** (1-24 cr) Prereq: Open to seniors with the consent of the instructor.**\*889. Directed Readings** (1-24 cr) Prereq: Graduate standing and permission.**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

3. Approval of the program no later than the second semester of the junior year.

The academic adviser is responsible for coordinating the program with other concerned departments. Courses outside the College of Arts and Sciences may be applied to the 48 hours when they contribute directly and necessarily to the program. Before designing programs with large numbers of hours outside the College, students should inquire in the Arts and Sciences Advising Center, 107 Oldfather Hall.

**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.

## Requirements for the Minor in Individualized Program of Studies

A minimum of 24 hours including at least 10 in one College of Arts and Sciences department. The IPS minor is intended for use by students completing a major in one of the departmental programs who wish to supplement that major with work in an identifiable area of study not represented by established departmental minors. Courses outside the College may be used provided they contribute necessarily to the intent of the minor. Normally, at least half of the total number of hours constituting the minor programs should be in the College. Individualized Program of Studies minors must be approved by the adviser of their program and dean, subject to the policy of their major department regarding IPS minors. A description of the IPS minor, a listing of each course in the minor, and the adviser's approval, must be submitted for approval to the Arts and Sciences Advising Center, 107 Oldfather Hall.

## International Studies

**Director and Chief Adviser: Robert Hitchcock,**  
121 Bessey Hall

**Faculty:** Ambrosius (history), Avery (political science), Forsythe (political science), Hitchcock (anthropology), Kennedy (history), McPhee (economics), Peterson (agricultural economics), Potter (architecture), Shirer (modern languages)

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.

## Requirements for the Major in Individualized Program of Studies

1. Selection of at least 48 hours of courses representing an integrated study of some area, topic, or problem.
2. At least 15 of the 48 or more hours must be in one department in the College.

**Pass/No Pass.** Students are required to obtain permission from the chief adviser to take major or minor courses for pass/no pass (P/N) 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

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 major 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.*

International Studies

Thematic Specialization: 15 hours in two of the following tracks:

#### 1. Power and Production

ANTH 350. Indians of Latin America

ANTH 360. Peoples & Cultures of Africa

ANTH 362. Peoples & Cultures of Africa

ANTH 363. Peoples & Cultures of the Arctic Regions

ANTH 365. Ethnology of Europe

ANTH 366. Peoples & Cultures of East Asia

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 372. European Landscapes & Cultures

GEOG 374. Geography of Russia

GEOG 375. Geography of Asia

GEOG 378. Geography of Latin America

GEOG 477. Cultural Geography of South 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 232. History of England Since the Glorious Revolution

HIST 262. Russia: The Nineteenth & Twentieth Centuries

HIST 272. The Latin American Republics

HIST 282. Modern East Asia

HIST 325. France Since the French Revolution

HIST 327. History of Germany: 1740-1914

HIST 328. History of Germany: 1914 to Present

HIST 330. Contemporary Europe

HIST 339. The Holocaust

HIST 362. Eastern Europe & the Balkans Since 1815

HIST 371. The Shaping of Modern Mexico

HIST 372. Revolution in Twentieth-Century Latin America

HIST 382. History of Modern Japan

HIST 384. History of Modern China

HIST 434. England in the Victorian Age

HIST 435. Twentieth-Century England

HIST 461. The Russian Revolution

HIST 462. Recent Russia

HIST 475. History of Brazil

HIST 480. The Social & Economic History of China Since the Late Ming Era

HIST 485. Africa Since 1800

HIST 486. History of South Africa

INTS 395. Internship in International Studies

POLS 274. Developmental Politics in East Asia

POLS 277. Latin American Politics

POLS 372. Russian Politics

POLS 373. Eastern European Government & Politics

POLS 376. Chinese Politics

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 411. Agricultural Marketing in a Multinational Environment

AECN 420. International Food & Agricultural Trade

AGRI 292. 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 242. The Geographical Background to World Affairs

GEOG 272. Geography of World Regions

HIST 336. The British Empire & Commonwealth

HIST 337. War & Peace in Europe: 1789-1914

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 426. European Diplomats & Diplomacy

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 and Conflict Resolution

POLS 271. West European Politics

POLS 272. Russian Politics

POLS 360. Understanding World Politics

POLS 361. The United Nations & World Politics

POLS 371. Politics of the European Union

POLS 450. The Making of US Foreign Policy

POLS 459. International Political Economy

POLS 464. Political Economy of the Asia-Pacific

POLS 465. The United States & Latin America

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 and Organization

### 3. Cultural Encounters

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 341. European Art in the Nineteenth Century

AHIS 346. European Art in the Twentieth Century

AHIS 441. Impressionism & Post-Impressionism

COMM 211. Intercultural Communications

ENGL 234B. European Authors Since 1660

ENGL 243B. Literature of India

ENGL 244A. Into to African Literature

ENGL 245L. Canadian Literature

ENGL 331. British Authors Since 1800

ENGL 365. Into to Nineteenth-Century British Literature

ENGL 465. Nineteenth-Century British Literature

FREN 322. French Civilization

FREN 323. Aspects of Francophone Civilization

FREN 454. Nineteenth Century

FREN 457. Twentieth-Century French Literature I

FREN 458. Twentieth-Century French Literature II

GERM 282. German Literature in Translation I

GERM 283. German Literature in Translation II

GERM 301. Representative Authors I

GERM 302. Representative Authors II

GERM 321. German Civilization I

GERM 322. German Civilization II  
 GERM 449. Survey of Nineteenth-Century German Literature, 1820-1848  
 GERM 450. Survey of Nineteenth-Century German Literature, 1848-1900  
 GERM 451. From Naturalism to Expressionism  
 GERM 452. From the Weimar Republic Into Exile  
 GERM 455. Postwar German Literature I: The Literature of West Germany, Austria, and Switzerland  
 GERM 456. Postwar German Literature II: The Literature of the GDR  
 HIST 424. European Social & Cultural History  
 ITAL 282. Italian Literature in Translation I  
 ITAL 283. Italian Literature in Translation II  
 ITAL 301. Representative Authors I  
 ITAL 302. Representative Authors II  
 MODL 234D. Major Themes in World Literature  
 MUNM 276G. The Music Experience  
 MUNM 280. World Music  
 PHIL 340. Contemporary Analytical Philosophy  
 PHIL 341. Contemporary Continental Philosophy  
 POLS 108. Political Ideas  
 POLS 484. Modern Political Theory  
 RUSS 301. Representative Authors I  
 RUSS 302. Representative Authors II  
 RUSS 441. The Russian Novel  
 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 282. Spanish Literature in Translation I  
 SPAN 283. Spanish Literature in Translation II  
 SPAN 311. Representative Spanish-American Authors I  
 SPAN 312. Representative Spanish-American Authors II  
 SPAN 315. Representative Authors of Spain II  
 SPAN 321. Spanish Civilization  
 SPAN 331. Latin American Civilization  
 SPAN 453. Nineteenth-Century Spanish Literature  
 SPAN 456. Twentieth-Century Spanish Poetry  
 SPAN 457. Twentieth-Century Spanish Narrative  
 SPAN 458. Twentieth-Century Spanish Drama  
 SPAN 459. Spanish-American Poetry  
 SPAN 460. Spanish-American Novel  
 SPAN 462. Spanish-American Short Story  
 SPAN 463. Twentieth-Century Spanish & Spanish-American Essay  
 SPAN 469. Survey of Spanish-American Literature  
 SPAN 470. Women Writers in Spanish America  
 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) Prereq: Junior standing with 18 credits completed toward major in International Studies. Students do independent study projects while working to complete a major in International Studies. Student projects supervised by the major adviser.

## Judaic Studies

### (Minor Only)

**Director:** Jean Cahan, 317 Avery Hall  
**Faculty:** Maller (architecture); Schwartzbach (biology); S. Crawford, J. Turner (classics); Bryant (educational administration); E. Bahar (engineering); Erlich, Raz, Shapiro (English); Kaplan (geology); S. Burnett, D. Cahan, Cope, Steinweis (history); J. Cahan (Judaic studies); Kalish (law); Holten, Sartori, Swann (library); Sommer (management); O. Bahar, Horowitz, Houston, E. Jacobson, M. Jacobson, H. Turner (modern languages); Rapkin, Spinner, Steinman (political science); Tomkins (psychology); Siegman (sociology)

Judaic Studies is an interdisciplinary program of the Norman and Bernice Harris Center for Judaic Studies, 317 Avery 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 bigotry. 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 are also available in Biblical and Modern Hebrew.

### Requirements of the Minor in Judaic Studies

- 18 hours taken from:
  - a. 2 core courses: HIST 219 Intro to Jewish History and JUDS 350 (CLASS 350) Literature of Judaism
  - b. 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 206G. Ways of Western Religion  
 CLAS 308. History of Comparative Religion  
 CLAS 409. The Religion of Late Western Antiquity  
 ENGL 247J. Jewish American Fiction  
 ENGL 341. Judeo-Christian Literature  
 ENGL 342B. Franz Kafka  
 GEOL 305. Geology & Geography of the Middle East  
 HEBR 101. Elementary Biblical Hebrew  
 HEBR 102. Elementary Biblical Hebrew  
 HEBR 201. Biblical Hebrew Prose  
 HEBR 202. Biblical Hebrew Poetry  
 HIST 209. Ancient Civilizations of the Middle East to 500 BC (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  
 SOCI 217. Nationality & Race Relations  
 SOCI 452. Sociology of Religion

## Courses of Instruction (JUDS)

**101. Beginning Modern Hebrew I** (MHEB 101) (5 cr)  
 For course description, see MHEB 101.

**102. Beginning Modern Hebrew II** (MHEB 102) (5 cr)  
 Prereq: MHEB 101 or equivalent.  
 For course description, see MHEB 101.

**201. Second Year Modern Hebrew I** (MHEB 201) (3 cr)  
 Prereq: MHEB 102 or equivalent.  
 For course description, see MHEB 201.

**202. Second Year Modern Hebrew II** (MHEB 202) (3 cr)  
 Prereq: MHEB 201 or equivalent.  
 For course description, see MHEB 202.

**[ES][IS] 205. Introduction to the Hebrew Bible/Old Testament** (CLAS, RELG 205) (3 cr)  
 For course description, see CLAS 205.

**[ES] 217. Israel: The Holy Land** (HIST, RELG 217) (3 cr)  
 For course description, see HIST 217.

**[IS] 306. Second Temple Judaism** (CLAS, RELG 306) (3 cr)  
 For course description, see CLAS 306.

**[ES] 331. Ancient Israel** (CLAS, HIST 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][IS] 340. Women in the Biblical World** (CLAS, RELG 340) (3 cr)  
 For course description, see CLAS 340.

**[ES][IS] 350. Literature of Judaism** (CLAS, RELG 350) (3 cr)  
 For course description, see CLAS 350.

**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] 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.

## Latino and Latin American Studies

### Coordinator and Undergraduate Adviser:

**Marcela Raffaelli** (psychology/ethnic studies),  
 321 Burnett Hall

**Faculty:** T. Aguilar (curriculum and instruction), Avery (political science), Cantarero (community and regional planning), Carlo (psychology), Carranza (sociology/ethnic studies), Clements (chemical engineering), Garcia (curriculum and instruction), Gonzalez (modern languages/ethnic studies), Grajeda (English/ethnic studies), Hames (anthropology), Johnson (sociology), Lopez (curriculum and instruction), Luna (foreign languages-UNO), Ad. Martinez (modern languages and literatures), Mason (agronomy), Myers (State Museum/anthropology), Nemeth (curriculum and instruction), Nickel (modern languages and literatures), Osorio (veterinary science), Pasten (modern languages and litera-

tures), Raffaelli (psychology/ethnic studies), Van Den Berg (economics), Vigil (history/ethnic studies), Walters (agronomy), Wayne (geology). **University Staff:** Carranza-Rodriguez (multicultural affairs), Diaz-Perdomo (university health center)

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:**
- 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 307. Spanish for Business & Commerce I (3 cr)  
 SPAN 308. Spanish for Business & Commerce II (3 cr)  
 SPAN 311. Representative Spanish-American Authors I (3 cr)  
 SPAN 312. Representative Spanish-American Authors II (3 cr)  
 SPAN 317. Intro to Linguistics (3 cr)  
 SPAN 319. Spanish Phonetics (3 cr)  
 SPAN 331. Latin American Civilization (3 cr)  
 SPAN 459. Spanish-American Poetry (3 cr)  
 SPAN 460. Spanish-American Novel (3 cr)  
 SPAN 462. Spanish-American Short Story (3 cr)  
 SPAN 469. Survey of Spanish-American Literature (3 cr)  
 SPAN 470. Women Writers of Spanish America (3 cr)  
 PORT 210. Accelerated Second-Year Portuguese (6 cr)  
 PORT 398. Special Topics in Luso-Brazilian Literature (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)  
 AHIS 465. Pre-Columbian Art (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)  
 EDPS 434. Comparative Education (3 cr)  
 ENGL 245D. Chicano Literature (3 cr)  
 ETHN 171. Latin American Culture & Civilization (HIST 171) (3 cr)  
 ETHN 350. Indians of Latin America (ANTH 350) (3 cr)  
 ETHN 370. The Making of Colonial Mexico (HIST 370) (3 cr)  
 ETHN 371. The Shaping of Modern Mexico (HIST 371) (3 cr)  
 GEOG 378. Geography of Latin America (3 cr)  
 HIST 223. Spain & the Spanish Heritage (3 cr)  
 HIST 271. Latin American Colonies (3 cr)  
 HIST 272. The Latin American Republics (3 cr)  
 HIST 372. Revolutions in Twentieth-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 465. The United States & Latin America (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 that may apply to the Latin American Studies major. Associate Professor Norman Luna is the coordinator for Latin American Studies at UNO.

### 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 the 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 (CURR 330) (3 cr)  
 ETHN 350. Indians of Latin America (ANTH 350) (3 cr)  
 ETHN 357. The History & Culture of the Mexican-American (HIST 357) (3 cr)  
 ETHN 370. The Making of Colonial Mexico (HIST 370) (2-3 cr)  
 ETHN 481. Minority Groups (SOCI 481) (3 cr)  
 ENGL 101B. Composition & Literature I (Chicano Literature section) (3 cr)  
 ENGL 102B. Composition & Literature II (Chicano Literature section) (3 cr)  
 ENGL 245D. Chicano Literature (3 cr)

### Courses of Instruction (LAMS)

**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.

### Mathematics and Statistics

**Chair:** Jim Lewis, 810 Oldfather Hall

**Vice Chair:** John Orr

**Professors:** Dunbar, Harbourne, Johnson, Kramer, Lahiri, Lewis, Logan, Meakin, Mientka, Peterson, Pitts, Rebarber, Shores, Skoug, Wiegand, S. Wiegand, Young

**Associate Professors:** Buskirk, Chouinard, Cohn, Deng, Hermiller, Jaffe, Ledder, Marley, Orr, Radcliffe, Rammaha, Woodward

**Assistant Professors:** Donsig, Hines, Maiti, Nettleton, J. Walker, M. Walker

### Requirements for the Major in Mathematics and Statistics

The major in mathematics and statistics must include a complete calculus sequence (MATH 106-107-208 or MATH 106H-107H or the equivalent) and at least 24 hours of advanced courses subject to the following conditions:

1. MATH 221 and MATH 314 must be included.
2. At least three 400-level mathematics or statistics courses other than MATH 496 and 497 must be included.
3. A cumulative grade point average of at least 2.5 must be earned in advanced mathematics and statistics courses.
4. All statistics courses except STAT 180 count as advanced courses.
5. For students in Arts and Sciences College who are also obtaining a teaching certificate from Teachers College, MATH 260 and 350 count as advanced courses and only two 400-level courses are required.
6. Joint computer science/mathematics and statistics majors who take both 441 and 447 may count one of the courses towards both majors and the other towards the major in the department through which the student registered for the course.

7. For majors with a major or minor in actuarial science who have earned at least a C in both FINA/ACTS 471 and 472, only 21 hours of advanced courses in mathematics and statistics are required.

8. **Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required in the senior year:

a. To complete an exit exam.

b. To participate in an exit interview.

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.

No minor is required, but a minor field of study in which mathematics or statistics is of recognized importance is strongly recommended.

## Requirements for the Minor in Mathematics and Statistics

**Plan A.** A complete calculus sequence plus two advanced courses.

**Plan B.** A complete calculus sequence.

**Pass/No Pass.** For majors or minors, no calculus course can be taken pass/no pass. For the major, at most 3 of the 24 hours of advanced courses may be taken on a pass/no pass basis. For Plan A minor, one advanced course may be taken pass/no pass if approved by the student's major department.

**Prerequisites.** The prerequisites listed for a course may be replaced by equivalent preparation. A prerequisite for all advanced courses is successful completion of the calculus sequence MATH 106-107-208 (MATH 106H-107H). Additional or specific prerequisites may also be listed. Two courses past calculus are required for all 400-level mathematics courses. Prerequisites for 400-level statistics courses are given with the descriptions. All topics, independent study, reading courses, and seminars require permission before registering. Students with special circumstances in their preparation should confer with the chief adviser or vice chair for guidance in selecting the proper course.

**NOTE:** Persons 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 vice chair.

**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. 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 [100x]. 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 [101x]. 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 [102x]. 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.

**[ES][IS] 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 and Statistics for further information. MATH 104 is recommended for students in managerial and social sciences.

**[ES][IS] 106 [106x]. 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.

**[ES][IS] 106H. Honors: 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 half of MATH 107.

**[ES][IS] 107 [107x]. 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.

**[ES][IS] 107H. Honors: Calculus II** (5 or 7 cr) Prereq: Good standing in the University Honors Program or by invitation. Accelerated calculus course covering approximately 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. *A University Honors Seminar 189H is required of all students in the University Honors Program.* Topics vary.

**198H. Honors: Freshman Seminar** (1-3 cr) Prereq: Good standing in the University Honors Program or by invitation.

**200/800. Mathematics for Elementary School Teachers** (3 cr) Prereq: Undergraduates must be admitted to Teachers College or the child development program of HRFS; successful completion of the PPST; and removal of any mathematics entrance deficiencies. Graduate students are admitted by permission. 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 Teachers College or the child development program of HRFS. Graduate students are admitted by permission. Fundamental mathematical concepts basic to the understanding of elementary geometry.

**[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 180.* 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.

**[ES][IS] 208 [208x]. 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.

**[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.

**[IS] 260. Introduction to the Foundations of Mathematics** (3 cr) Prereq: MATH 106. *Not open to mathematics majors except for dual matriculants in Teachers College.* Elementary logic, inductive and deductive reasoning, methods of proof.

**350. Concepts in Geometry** (3 cr) Prereq: MATH 260. *Not open to mathematics majors, except those with dual matriculation in Teachers College.* 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 and Statistics 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.

**[IS] 221/821. Differential Equations** (3 cr) Prereq: A grade of "P" or "C" or better in MATH 208. *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.

**[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.

**[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.

**[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.

**[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.

**[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.

**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.

**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.

**[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: CSCE 150 or 155. *Credit cannot be given for both MATH 340 and ENGM 480. Not open to MA or MS students in mathematics or statistics.*

For course description, see CSCE 340/840.

**[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 Teachers College. 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.

**[IS] 417/817 [817T]. Introduction to Modern Algebra I** (3 cr)

Prereq: MATH 310 is advisable for most students.

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.

**418/818. Introduction to Modern Algebra II** (3 cr)

Prereq: MATH 417/817.

Field theory including Galois theory and finite fields and from linear transformations including characteristic roots, trace and transpose, and determinants.

**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 Laurent series, calculus of residues and contour integration, conformal mappings, harmonic functions, and some applications.

**[IS] 425/825 [825T]. Mathematical Analysis I** (3 cr)

Real number system, topology of Euclidean space and metric spaces, compactness, sequences, series, convergence and uniform convergence, and continuity and uniform continuity.

**426/826. Mathematical Analysis II** (3 cr)

Prereq: MATH 425/825. Differentiation, the mean value theorem, Riemann and Riemann-Stieltjes integrals, functions of bounded variation, equicontinuity, function algebras, and the Weierstrass and Stone-Weierstrass theorems.

**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.

**[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, queueing theory, decision analysis, network analysis, and simulation.

**[IS] 430/830. Ordinary Differential Equations I** (3 cr)

Prereq: MATH 221 and 322.

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.

**441/841. Approximation of Functions** (CSCE 441/841) (3 cr)

Prereq: A programming language, MATH 221 and 314.

For course description, see CSCE 441/841.

**442/842. 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.

**443/843. Methods of Applied Mathematics II** (3 cr)

Prereq: MATH 442 or permission.

Application of partial differential equation models to problems in the physical and applied sciences. Includes derivation of partial differential equations, the theory of continuous media, linear and nonlinear wave propagation, diffusion, transform methods, and potential theory.

**445/845. Introduction to the Theory of Numbers I** (3 cr)

Arithmetic functions, congruences, reciprocity theorem, primitive roots, diophantine equations and continued fractions.

**447/847. Numerical Analysis II** (CSCE 447/847) (3 cr)

Prereq: CSCE 340, MATH 221 and 314.

For course description, see CSCE 447/847.

**450/850. Combinatorics** (3 cr)

Prereq: MATH 310 or 314. 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)

Prereq: MATH 310 or 314. Theory of directed and undirected graphs, including trees, circuits, subgraphs, matrix representations, coloring problems, and planar graphs. Emphasis on methods which can be implemented by computer algorithms. Selected applications.

**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** (CSCE 465/865) (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.

**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.

**Statistics and Probability (STAT)**

**NOTE:** Persons with previous credit in any statistics course may not register for or earn credit in STAT 180 without first receiving special written permission from the Director of the Division of Statistics.

**NOTE:** MATH 221, 221H, and any 300- or 400-level course taught in the Department of Mathematics and Statistics may be substituted for MATH 208 as meeting the ES requirement for Area B.

**[ES][IS] 180. Elements of Statistics** (3 cr)

Prereq: Removal of all entrance deficiencies in mathematics. *Credit towards a degree in the College of Arts and Sciences cannot be earned in both ECON 215 and STAT 180, or in both STAT 180 and EDPS 459/859.*

Finite probability, random variables, probability distributions, statistical inference, estimation and testing of hypotheses.

**380/880. Statistics and Applications** (3 cr)

Prereq: MATH 208 or 107H. *Not open to MA or MS students in mathematics or statistics.*

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.

**482/882. 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.

**483/883. Mathematical Statistics II Statistical Inference** (3 cr)

Prereq: STAT 482/882.

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.

**484/884. Applied Stochastic Models** (3 cr)

Prereq: STAT 380/880 or IMSE 321 or equivalent.

Introduction to stochastic modeling in operations research. Includes the exponential distribution and the Poisson process, discrete-time and continuous-time Markov chains, renewal processes, queueing models, stochastic inventory models, stochastic models in reliability theory.

**485/885. Applied Statistics I** (3 cr)

Prereq: STAT 380/880 or IMSE 321, and knowledge of matrix algebra.

General linear models for estimation and testing problems, analysis and interpretation for various experimental designs.

**486/886. Applied Statistics II** (3 cr)

Prereq: STAT 380/880 or IMSE 321, and knowledge of matrix algebra.

Time Series: Introduction to model building and forecasting. Multivariate Analysis Methods: Multivariate distributions, inference on correlations, regression, mean vectors and covariance matrices; tests of independence; canonical correlation; classification and discriminant analysis, principal component analysis.

**487/887. Applied Statistics III** (3 cr) Prereq: STAT 380/880 or IMSE 321 or permission.

Sampling Techniques: simple random sampling, sampling proportions, estimation of sample size, stratified random sampling, ratio and regression estimates. Nonparametric Methods: order statistics, tests for goodness of fit, linear rank tests, asymptotic relative efficiency, means of association.

**488/888. Topics in Statistics and Probability** (3 cr per sem) Prereq: Permission.

Special topics in either statistics or the theory of probability.

Refer to the Graduate Bulletin for 900-level courses.

**Seminars, Independent Study, Topics and Reading Courses (MATH)****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 juniors.**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Medieval and Renaissance Studies

**Director and Chief Adviser: Associate Professor**

**Jessica Coope**, 625 Oldfather Hall

**Faculty:** Anthanassopoulos (anthropology); Ertl (architecture); Bolland, Collins, Stewart (art); Adkin, Turner (classics); Buhler, Haller, Hilliard, McShane, Nissé, Olson, Whipp (English); Burnett, Coope, Levin (history); Buhmann, Ganim, Hayden-Roy, E. Jacobson, Pereira, Wilhelmsen (modern languages); Lefferts, Starr (music); Ide (philosophy); Carr-Mason (theatre arts)

### Requirements for the Major in Medieval and Renaissance Studies

**1.** The major requires 30 hours of approved courses. Six hours must be taken at the 300 level; 6 hours at the 400 level. Students are strongly recommended to fulfill the College language requirement either with Latin or with a language that complements their area of concentration.

**2. Core Courses:** Distribution requirement for all students in the major program:

- a. HIST 211 Middle Ages
- b. HIST 212 Early Modern Europe to 1789 or HIST 321 Renaissance and Reformation
- c. *Choose one of the following courses:*
  - CLAS 206G Ways of Western Religion
  - ENGL 362 Intro to Medieval Literature
  - ENGL 363 Intro to Renaissance Literature
  - GERM 442 Survey of Medieval German Literature
  - GERM 445 Sixteenth-Century German Literature
  - LATN 282 Latin Literature in Translation

## SPAN 421 Medieval Literature

## SPAN 441 Golden Age Poetry

## SPAN 442 Golden Age Prose

## d. ART 273 Italian Renaissance Art or PHIL 335 Medieval Philosophy

**3. 988 or 989 Interdisciplinary Seminar: open to undergraduates with permission**

**4. 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 Committee 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, 12 credits at the 200 level or above.

## Required courses (for a total of 9 credits):

1. **Either** HIST 211 (Middle Ages), HIST 212 (Early Modern Europe to 1789), or HIST 321 (Renaissance and Reformation);
2. **Either** ENGL 362 (Intro to Medieval Literature) or ENGL 363 (Intro to Renaissance Literature);
3. AHIS 273 (Italian Renaissance Art) or PHIL 335 (Medieval Philosophy).

The remaining courses must be taken from history, literature, classics, philosophy, and the history of the visual and performing arts listed below.

### Medieval and Renaissance Studies Courses (by department)

**Art and Art History**

- 167-168. Survey: Cave-Gothic; Renaissance-Contemporary  
273. Renaissance Art in Italy

**Classics**

180. Classical Mythology  
206G. Ways of Western Religion  
281. The World of Classical Greece (ENGL 240A)  
282. The World of Classical Rome (ENGL 240B)  
307. Early Christianity  
409/809. Religion of Late Antiquity  
483/883. Classical Drama  
485/885. Studies in Comparative Literature  
456/856. Latin of the Middle Ages

**English**

- 210L. Arthurian Literature/Legend  
230. English Authors Before 1800  
230A. Shakespeare  
330E. Chaucer/Shakespeare/Milton  
340. Classical Roots of English Literature  
362. Intro to Medieval Literature  
363. Intro to Renaissance Literature  
401A. Shakespeare's Contemporaries  
402J. Epic Poetry  
402K. Renaissance Poetry  
426. History of the English Language  
428A. Old English

## 430A. Shakespeare I

## 430B. Shakespeare II

## 430D. Chaucer

## 430E. Milton

## 462. Survey of Medieval Literature

## 463. Survey of Renaissance Literature

**History**

## 100. Western Civilization to 1715

## 211. History of Middle Ages

## 212. History of Early Modern Europe to 1789

## 219. Jewish History

## 220. History of Christianity (Jesus to US Church)

## 231. English History: Stonehenge to Glorious Revolution

## 261. Russia to the Era of Catherine the Great

## 301. Pre-Industrial Europe (Greece to 1700)

## 307. Early Christianity

## 313. Decline &amp; Fall of the Roman Empire

## 322. Age of the Baroque

## 398. Jews in the Middle Ages

## 409. Religion of Late Western Antiquity

## 414/814. Medieval Culture

## 420/820. Renaissance Society &amp; Culture

## 421/821. Age of Religious Reform: 1300-1650

## 431/831. Medieval England

## 432/832. England: Reformation to Revolution, 1530-1660

## 911. Readings &amp; Problems in Medieval History

## 912. Seminar in Medieval History

## 931. Readings &amp; Problems in Early Modern History

## 932. Seminar in Early Modern History

**Modern Languages and Literature**

## MODL 230G. Individual in Renaissance Society

## MODL 443-444. Interdisciplinary Seminar: Dante &amp; His Times

## GERM 442. Survey of Medieval German Literature

## GERM 445. Sixteenth-Century German Literature

## SPAN 314. Representative Authors of Spain I

## SPAN 315. Representative Authors of Spain II

## SPAN 421. Medieval Literature

## SPAN 441. Golden Age Poetry

## SPAN 442. Golden Age Prose

**Music**

## 364. Music History &amp; Literature I

## 451/851. Music &amp; the Church

## 849. Medieval Music

## 886. Music of the Renaissance

**Philosophy**

## 231. Ancient Greek Philosophy

## 335. History of Medieval Philosophy

450. Greek Philosophy (*for philosophy majors only*)**Theatre and Dance**

## 235. Theatre History I (to 1700)

401. Advanced Acting (*if it focuses on Greeks and Shakespeare*)

## 404/804. Evolution of Dramatic Theory I (Aristotle to Lessing)

## Modern Languages and Literatures

**Chair: Harriet S. Turner**, 1109 Oldfather Hall**Vice Chair: Marshall Olds**

**Professors:** Carr, Fouletier-Smith, E. Jacobson, M. Jacobson, Karch, A.L. Martinez, Olds, Stebbins, Turner

**Associate Professors:** Balasubramanian, Brantner, Buhmann, Centuori, Erlich, Espina, Hayden-Roy, A. H. Martinez, Nickel, Pierson, Saskova-Pierce, Shirer, Stump, Wilhelmsen

**Assistant Professors:** Ganim, Horowitz, Mejias-Vicandi, Pasten, Pereira

The Department of Modern Languages and Literatures offers courses in German, Japanese, Chinese, the Romance Language group (French, Italian, Portuguese, Spanish), Lakota Sioux, Modern Hebrew, 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: Institute for International Studies, Medieval and Renaissance Studies, Slavic and East European 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 France, Germany, Spain, Mexico, Russia, Japan, and the Czech Republic. See the index for a guide to these programs.

Students of one of the languages taught in the Department have the opportunity to live together in the same residence hall on campus where they can practice the foreign language informally and take part in extracurricular activities such as foreign language films and discussion groups.

**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 with permission 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 3 hours from 317, 319, 321, 331; 9 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 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 in their senior year, to present a paper orally to a panel of faculty members. The undergraduate adviser will inform majors 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 Czech, French, German, Italian, and Russian

- Czech, Italian, and Portuguese offer Plan B minors 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 230G The Individual in Renaissance Society; 234D Major Themes in World Literature; 298/398 Special Topics; 470 Introduction to Literary Criticism; FREN, GERM, SLAV and SPAN 282-283 Literature in Translation; 264-265 Spanish-American Literature in Translation; and MODL/GERM 442/842 Survey of Medieval German Literature in Translation.

**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][IS] 189H. **University Honors Seminar** (3 cr) Prereq: Admission to the University Honors Program. A University Honors Seminar 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** (3 cr) Introduction to the literary and historical context of Jewish cultural life as expressed in modern works of literature 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.

**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. *Specific 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

[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.

**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** (ANTH, EDPS, GEOG, HIST, POLS, SOCI 478/878) (3-6 cr, max 6) Prereq: Junior standing and permission.  
For course description, see ANTH 478/878.

Refer to the Graduate Bulletin for 900-level courses.

## Chinese (CHIN)

### 101. Beginning Chinese I

(5 cr) Fundamentals of the language. Emphasis on speaking and listening. Transcription of Chinese sounds in Roman letters (in Pinyin system). Reading and writing of characters.

### 102. Beginning Chinese II

(5 cr) Prereq: CHIN 101 or equivalent.  
Continuation of grammar, reading, writing, and listening.

Emphasis on conversational exercises based on the texts.

### 201. Second-Year Chinese I

(3 cr) Prereq: CHIN 102 or equivalent.  
Continuation of CHIN 102. Intensive development of reading, writing, and listening competence. Emphasis on reading accuracy.

### 202. Second-Year Chinese II

(3 cr) Prereq: CHIN 201 or equivalent.  
Continuation of CHIN 201. Developing a higher level of accuracy in writing. Emphasis on reading of more difficult texts.

## Czech (CZEC)

### [101c]. Beginning Czech I

(5 cr) (5 cr) Readings, writing, conversation and listening comprehension topics include family, personal information and various aspects of the Czech cultural and social life.

### [102c]. Beginning Czech II

(5 cr) Prereq: CZEC 101c or equivalent.  
Continuation of CZEC 101c. Introduction to deference rules. Selections from contemporary media. Syntax of more complex sentences.

### [201c]. Second-Year Czech I

(3 cr) Prereq: CZEC 102c 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.

### [202c]. Second-Year Czech II

(3 cr) Prereq: CZEC 201c or equivalent.  
Continuation of CZEC 201c. Preparation for a stay in the Czech Republic.

### 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) Prereq: FREN 201 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.

**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] **445/845. Seventeenth Century** (3 cr) Prereq: FREN 301 and 302 or permission. The plays of Corneille, Moliere, Racine.

[IS] **446/846. Seventeenth Century** (3 cr) Prereq: FREN 301 and 302 or permission. Prose and poetry.

[IS] **449/849. Eighteenth Century I** (3 cr) Prereq: FREN 301 and 302 or equivalent. Philosophical writings and the theatre of eighteenth-century France.

[IS] **450/850. Eighteenth Century II** (3 cr) Prereq: FREN 301 and 302, or equivalent. Works of Voltaire, Rousseau, Montesquieu, Diderot. Lectures, discussion, and reports.

[IS] **453/853. French Literature Nineteenth Century** (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 Nineteenth Century** (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.

[IS] **457/857. Twentieth-Century French Literature I** (3 cr) Prereq: FREN 301 and 302, or equivalent. Main trends in the French novel from 1900 to the present.

[IS] **458/858. Twentieth-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.

**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

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. Systematic composition and conversational exercises.

[IS] **204. Composition and Conversation II** (3 cr) Prereq: GERM 202 or equivalent score on German Language Placement Exam. 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.

**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.

**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.

**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 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** (MODL 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. Sixteenth- and Seventeenth-Century German Literature** (2-3 cr) Prereq: GERM 302 or equivalent. Humanism, Reformation, and Baroque.

[IS] **447/847. Eighteenth-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 Nineteenth-Century German Literature, 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 Nineteenth-Century German Literature, 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 I: 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.

## Italian (ITAL)

### 101. Beginning Italian I

(5 cr) Careful and thorough study of the fundamentals of the language. Grammar and easy readings. Emphasis on comprehension of written and spoken Italian.

**102. Beginning Italian II** (5 cr) Prereq: ITAL 101 or equivalent. Grammar continued. Reading of texts dealing primarily with Italy and Italian life. Composition and conversation.

**201. Second-Year Italian I** (3 cr) Prereq: ITAL 102 or equivalent. Intensive and extensive reading of moderately difficult Italian prose; review of grammar; conversational exercises based on the texts.

**202. Second-Year Italian II** (3 cr) Prereq: ITAL 201 or equivalent. Continuation of ITAL 201. Reading of more difficult texts. Class discussion and reports on supplementary reading.

[ES] **301. Representative Authors I** (3 cr) Prereq: ITAL 202 or equivalent. Thorough analysis of the schools and cardinal figures of Italian literature from its origins through the seventeenth century. Lectures and extensive readings in Italian.

[ES] **302. Representative Authors II** (3 cr) Prereq: ITAL 202 or equivalent. Trends and figures of Italian literature from the eighteenth century to the nineteenth. Introduction to the contemporary period. Lectures and extensive readings in Italian.

**398. Special Topics in Italian** (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.

## 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.

## Lakota Sioux (LAKO)

### 101. Lakota Sioux I

(5 cr) Careful and thorough study of the fundamentals of the language. Emphasis on conversational skills and culture.

**102. Lakota Sioux II** (5 cr) Prereq: LAKO 101 or permission. Continuation of LAKO 101.

## Modern Hebrew (MHEB)

### 101. Beginning Modern Hebrew I

(JUDS 101) (5 cr) Introduction to the alphabet and basic grammatical structures of Modern Hebrew; reading simple texts and acquiring writing skills.

**102. Beginning Modern Hebrew II** (JUDS 102) (5 cr) Prereq: MHEB 101 or equivalent. Continuation of MHEB 101. Grammar, reading, and writing.

**201. Second Year Modern Hebrew I** (JUDS 201) (3 cr) Prereq: MHEB 102 or equivalent.

Continuation of grammar and vocabulary building. Reading simple literary texts and conversational practice based on readings.

**202. Second Year Modern Hebrew II** (JUDS 202) (3 cr) Prereq: MHEB 201 or equivalent.

Reading, writing, and conversational practice at a more complex level.

## Portuguese (PORT)

### 110. Accelerated Beginning Portuguese

(10 cr) Prereq: satisfies the liberal education requirement.

**210. Accelerated Second-Year Portuguese** (6 cr) Prereq: PORT 110. Satisfies the liberal education requirements.

[ES] **301. Representative Authors I** (3 cr) Prereq: PORT 210 or equivalent or permission. Introduction to the literatures and cultures of the Portuguese speaking world. Lectures and readings in Portuguese.

[ES] **302. Representative Authors II** (3 cr) Prereq: PORT 301 or equivalent or permission. Continuation of PORT 301.

**398. Special Topics in Luso-Brazilian Literature** (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.

**399. Independent Study in Portuguese** (1-24 cr) Prereq: Permission. Special research project or reading program under the direction of a staff member in the department.

## 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 or equivalent. 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 or equivalent. Continuation of RUSS 203.

**210. Accelerated Second Year Russian** (10 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.

[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.

[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.

**[ES][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, Zoschenko, 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 sems 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 [201x]. 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 [202x]. 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][IS] 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** (3 cr) Prereq: SPAN 305 or equivalent.

Readings and analysis of masterpieces by great writers chosen from the *Modernista* period to the present time. Lectures, oral discussions, and written work in Spanish.

**[ES][IS] 312. Representative Spanish-American Authors II** (3 cr) Prereq: SPAN 305 or equivalent.

Readings of masterpieces by great writers from colonial times to the *Modernista* period. Lectures, oral discussions, and written work in Spanish.

**[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** (3 cr) Prereq: SPAN 300 or equivalent.

Latin American culture, pre-Columbian to the present. Lectures, discussions, papers in Spanish.

**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.

**[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 Busán*; selections from Santa Teresa de Jesus, *La Diana*, Quevedo's *Sueños*, and Gracian's *El citión*.

**[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. Nineteenth-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, Espriu, Tamayo y Baus, Echegaray, Bécquer, Pérez Galdós, Clarín, and Valera.

**[IS] 456/856. Twentieth-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. Twentieth-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. Twentieth-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, Sastré, and Arrabal.

**459/859. Spanish-American Poetry** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and analysis of Spanish-American poetry.

**460/860. Spanish-American Novel** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and analysis of Spanish-American novels.

**[IS] 462/862. Spanish-American Short Story** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and analysis of masterpieces of the Spanish-American short story from its origins, but focusing on the 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. Twentieth-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, Pícon Salas, Arciniegas, Mañach, Reyes, Paz.

**470/870. Women Writers of Spanish America** (3 cr)

Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Readings and analysis of 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.

## Music

**(Minor Only)****Requirements for the Minor in Music (Plan A only)**

- Students **must audition** for School of Music faculty for acceptance as a minor in music.
- Nineteen hours including two semesters of MUSR 068 (0 cr), 4 hours of consecutive courses in minor applied music classes; 4 hours of approved ensemble courses (for requirements see "Ensemble (MUEN)" on page 275; and 8 hours of Music Core Curriculum (MUSC 131, 144, 165, 165A, 278) in fall semester and 3 hours MUSC 166 and 166A in spring semester of same academic year.

## Native American Studies

**(Minor Only)****Coordinator and Undergraduate Adviser:****Cynthia Willis-Esqueda** (psychology/ethnic studies), 336 Burnett Hall**Faculty:** Awakuni-Swetland (anthropology/ethnic studies), Greenwald (history), Hames (anthropology), Kaye (English), McCollough (anthropology/ethnic studies), Miller (history/ethnic studies), Moore (sociology), Moulton (history), Olson (English), Snowden (law), Willis-Esqueda (psychology/ethnic studies), Wishart (geography), Wunder (history)**University Staff:** Long Soldier (Multi-Cultural Affairs)

Native American Studies offers a variety of courses and includes a minor in Native American Studies.

**Requirements for the Minor in Native American Studies**

- 18 hours from the following courses (other courses may be used with the approval of the faculty adviser):

ANTH 424. Intro to Oral Literature (3 cr)

ENGL 101D. Composition & Literature I  
(Native American Literature section) (3 cr)

## ENGL 102D. Composition &amp; Literature II

(Native American Literature section) (3 cr)

## ENGL 245B. Native American Literature (3 cr)

ENGL 445B. Ethnic Literature  
(Native American Literature) (3 cr)

## ETHN 212. Intro to Cultural Anthropology (ANTH 212) (3 cr)

## ETHN 217. Nationality &amp; Race Relations (SOCI 217) (3 cr)

## ETHN 330. Multicultural Education (CURR 330) (3 cr)

## ETHN 351. Peoples &amp; Cultures of Native North America (ANTH 351) (3 cr)

## ETHN 352. Intro to Plains Ethnology (ANTH 352) (3 cr)

## ETHN 356. Race &amp; Ethnicity in the American West (HIST 356) (3 cr)

## ETHN 425. Psychology of Racism (PSYC 425/825) (3 cr)

## ETHN 448. Family Diversity (SOCI 448/848) (3 cr)

## ETHN 451. Indians of Contemporary North America (ANTH 451) (3 cr)

## ETHN 465. History of Plains Indians (HIST 465/865) (3 cr)

## ETHN 481. Minority Groups (SOCI 481) (3 cr)

## HIST 358. The History &amp; Culture of the American Indian (3 cr)

## MODL 101. Lakota Sioux (5 cr)

## MODL 102. Lakota Sioux (5 cr)

## Philosophy

**Chair: Joseph Mendola**, 1009 Oldfather Hall**Professors:** Audi, Casullo, Hugly, Mendola, Potter, Sayward, Von Eckardt**Associate Professors:** Becker, Ide, van Roojen**Assistant Professor:** Newman

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)

**[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.

**[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.

**[ES][IS] 110 [110x]. 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] 182. Alpha Learning Community Freshman Seminar (3 cr) Requires enrollment in the Alpha Learning Community Program. PHIL 183 is normally taken in the next term. Topic varies.****[ES][IS] 183. Alpha Learning Community Freshman Seminar (3 cr) Prereq: PHIL 182. Requires enrollment in the Alpha Learning Community Program. Topic varies.****189H. University Honors Seminar (3 cr) Prereq: Admission to the University Honors Program or by invitation. A University Honors Seminar 189H is required of all students in the University Honors Program. Topics vary.**

**[ES][IS] 211. Introduction to Modern Logic (3 cr)**  
Methods of deductive thinking, with applications to deductive inferences in science and everyday life. Emphasis on applications of logic in other areas such as mathematics and morality.

**[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 (PSYC 216) (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] 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] 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 Tocynbee.

**[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.

**[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.**

**[ES][IS] 301. Theory of Knowledge (3 cr) Prereq: 3 hrs philosophy 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.

**[ES][IS] 302. Introduction to Metaphysics (3 cr) Prereq: 3 hrs philosophy 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.

**[ES][IS] 314. Problems in the Philosophy of Mind (3 cr) Prereq: 3 hrs philosophy 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 philosophy 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 philosophy 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 philosophy 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 philosophy 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 philosophy or permission.**  
Critical exposition of the main classical and contemporary theories of art: Expressionist, Formalist, and Representative. 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] 331. Hellenistic Philosophy (3 cr) Prereq: 3 hrs philosophy or permission.**  
Philosophy after Aristotle in the classical period, including the Stoics, Epicureans, and Skeptics, emphasizing historical connections and critical textual interpretation.

**[ES][IS] 332. Spinoza (3 cr) Prereq: 3 hrs philosophy 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] 335. History of Medieval Philosophy (3 cr) Prereq: 3 hrs philosophy or permission.**  
Philosophers from the fourth through the fourteenth centuries, including Augustine and Aquinas, emphasizing historical connections and the critical interpretation of texts.

**[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.

**[ES][IS] 337. Knowledge: Ancient and Medieval (3 cr) Prereq: 3 hrs philosophy or permission.**  
Ancient and medieval knowledge, focusing on perception, faith, and thought.

**[ES][IS] 338. Metaphysics: Ancient and Medieval (3 cr) Prereq: 3 hrs philosophy or permission.**  
Ancient and medieval metaphysical theories, focusing on persons, gods, and properties.

**[ES] 340. Contemporary Analytical Philosophy (3 cr) Prereq: 3 hrs philosophy or permission.**  
Development of 20th 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 philosophy 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 philosophy 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.

**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.

[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) Prereq: PHIL 211 or equivalent or permission.

Modern logic, including truth function theory, first order quantification, identity, terms and the model theory of first order languages.

**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.

**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.

**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*.

**489/889. Philosophical Themes** (1-24 cr) Prereq: Open to graduate students and, with the consent of the instructor, to seniors and especially qualified juniors. 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: Roger D. Kirby**, 116 Brace Physics Lab  
**Vice Chair: William B. Campbell**, 311 Ferguson

**Professors:** Burrow, Campbell, Dowben, Fabrikant, Fuller, Gay, J. Hardy, R. Hardy, Jaeks, Jaswal, Jones, Kirby, Leung, Liou, Sartori, Schmidt, Sellmyer, Simon, Starace, Torr

**Associate Professors:** Bettis, Ducharme, Finkler, Morgan, Snow

**Assistant Professors:** Batelaan, Claes, Doudin, Leslie-Pelecky

**Senior Lecturer:** Gaskell

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. The bachelor of science degree in physics with the astronomy option is provided for those with corresponding interests in astronomy. The interdisciplinary bachelor of science degree in the area of engineering physics is offered through the College of Engineering and Technology.

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 Undergraduate Adviser, Professor C. E. Jones, 313 Ferguson Hall.

**Pass/No Pass.** Students must request permission from the Department 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.

PHYS 441, 452, 462, and 466 are regularly offered in the fall semester. PHYS 311, 442, 451, and 461 are regularly offered in the spring semester.

## Requirements for the Major in Physics

**Bachelor of Science.** 68 hours. Students are required to take the following physics, mathematics, and chemistry courses, which are listed in the recommended sequence:

### First Year

#### First Semester

MATH 106 Calculus ..... 5  
 PHYS 211 General Physics ..... 4

#### Second Semester

MATH 107 Calculus ..... 5  
 PHYS 212 General Physics ..... 4  
 PHYS 222 Physics Lab ..... 1

### Second Year

#### First Semester

CHEM 109, 111, or 113 ..... 4  
 MATH 208 Calculus ..... 4  
 PHYS 213 General Physics ..... 4  
 PHYS 223 Physics Lab ..... 1

#### Second Semester

MATH 221 Differential Equations ..... 3  
 PHYS 311 Mechanics ..... 3  
 PHYS 231 Electrical & Electronic Circuits ..... 3

### Third Year

#### First Semester

PHYS 441 Experimental Physics I ..... 3  
 PHYS 466 Thermal Physics ..... 3

#### Second Semester

PHYS 442 Experimental Physics II ..... 3  
 PHYS 451 Electromagnetic Theory ..... 3  
 PHYS 461 Quantum Mechanics ..... 3

In addition, 12 hours must be taken from the following courses:

Hours
MATH 324 Intro to Partial Differential Equations ..... 3
PHYS 343 Physics of Lasers & Modern Optics ..... 3
PHYS 361 Concepts of Modern Physics ..... 3
PHYS 391 Undergraduate Research ..... max 3
PHYS 422 Intro to Physics & Chemistry of Solids ..... 3
PHYS 443 Experimental Physics III ..... 3
PHYS 452 Optics & Electromagnetic Waves ..... 3
PHYS 462 Atoms, Nuclei, & Elementary Particles ..... 3
PHYS 480 Intro to Lasers & Laser Applications ..... 3

Students intending to do graduate work in physics are generally advised to include PHYS 452 and 462.

No minor is required.

**Bachelor of Science Degree with Astronomy Option.** 71 hours. Students are required to take the following physics, mathematics, and chemistry courses, which are listed in the recommended sequence:

### First Year

#### First Semester

MATH 106 Calculus ..... 5  
 PHYS 211 General Physics ..... 4

#### Second Semester

ASTR 204 Intro to Astronomy ..... 3  
 ASTR 224 Astronomy Lab ..... 1  
 MATH 107 Calculus ..... 5  
 PHYS 212 General Physics ..... 4

### Second Year

#### First Semester

CHEM 109, 111, or 113 ..... 4  
 MATH 208 Calculus ..... 4  
 PHYS 213 General Physics ..... 4  
 PHYS 223 Physics Lab ..... 1

#### Second Semester

MATH 221 Differential Equations ..... 3  
 PHYS 311 Mechanics ..... 3  
 PHYS 231 Electrical & Electronic Circuits ..... 3

### Third and Fourth Years

PHYS 451 Electromagnetic Theory ..... 3  
 PHYS 452 Optics & Electromagnetic Waves ..... 3  
 PHYS 461 Quantum Mechanics ..... 3  
 PHYS 466 Thermal Physics ..... 3  
 Choose three from the following astronomy courses: ..... 9

ASTR 403 Galactic & Extragalactic Astronomy (3 cr)  
 ASTR 404 Stellar Astrophysics (3 cr)  
 ASTR 405 Solar System (3 cr)  
 ASTR 407 Interstellar Medium (3 cr)

In addition, 6 hours must be taken from PHYS 343, 361, 391, 422, 441, 442, 443, 462, 480.

No minor is required.

**Interdisciplinary Bachelor of Science Degree (engineering physics) (Offered through the College of Engineering and Technology).** 33 hours in physics. The following are required math and science courses in the recommended sequence:

#### **First Year**

<b>First Semester</b>	<b>Hours</b>
CHEM 109, 111, or 113 General Chemistry	4
MATH 106 Calculus	5
<b>Second Semester</b>	
MATH 107 Calculus	5
PHYS 211 General Physics	4

#### **Second Year**

<b>First Semester</b>	<b>Hours</b>
MATH 208 Calculus	4
PHYS 212 General Physics	4
PHYS 222 Physics Lab	1
<b>Second Semester</b>	
MATH 221 Differential Equations	3
PHYS 213 General Physics	4
PHYS 223 Physics Lab	1

#### **Third and Fourth Years**

Students must take 19 hours in physics from among the following courses: PHYS 343, 361, 422, 441, 442, 443, 451, 452, 461, 462, 466; PHYS/ELEC 480.

In addition, students must satisfy the requirements of the College of Engineering and Technology for the interdisciplinary bachelor of science degree. These include 10 hours in computer and/or communications skills courses, 21 hours in basic engineering courses, 21 hours in engineering at the 300 level or above, and 18 hours in humanity/social science courses. For further details, see the College of Engineering and Technology section of this bulletin or consult the engineering physics program adviser in the Department of Physics and Astronomy.

No minor is required.

**Bachelor of Arts.** 62 hours. The following courses are required and given in the recommended sequence:

#### **First Year**

<b>First Semester</b>	<b>Hours</b>
MATH 106 Calculus	5
PHYS 211 General Physics	4
<b>Second Semester</b>	
MATH 107 Calculus	5
PHYS 212 General Physics	4
PHYS 222 Physics Lab	1

#### **Second Year**

<b>First Semester</b>	<b>Hours</b>
CHEM 109, 111, or 113	4
MATH 208 Calculus	4
PHYS 213 General Physics	4
PHYS 223 Physics Lab	1
<b>Second Semester</b>	
MATH 221 Differential Equations	3
PHYS 231 Electronic Circuits	3
PHYS 311 Mechanics	3

#### **Third and Fourth Years**

PHYS 441 Experimental Physics..... 3

In addition: a) 9 hours must be taken from PHYS 343, 361, 391, 422, 443, 451, 452, 461, 462, 466, 480, and 498 (but no more than 3 hours may be in 498); b) 9 hours must be taken

from other 300- or 400-level courses in mathematics, engineering, or the sciences (including physics).

No minor is required.

**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 participate in an oral exit interview.
2. To complete the test administered to entering graduate students.

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 Physics**

**Plan AI.** PHYS 211, 212, 213, 222, and 223, plus 3 additional hours chosen from physics courses listed as requirements for the major in physics.

**Plan AII (Astronomy Option).** PHYS 211, 212, 213; ASTR 204 and 224, and one course from ASTR 403, 404, 405, and 407.

**Plan BI.** PHYS 211, 212, 213, and 222.

**Plan BII (Astronomy Option).** PHYS 211, 212, and ASTR 204 and 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)**

**[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.

**[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: PHYS/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.

**[ES] 204. Introductory 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.

**224. Astronomy and Astrophysics Laboratory** (1 cr) Lab 3. Prereq: ASTR 204 or permission. *For students who desire a lab to accompany ASTR 204.* Telescopic observations and laboratory experiments relating to observational astronomy. Emphasis on obtaining astronomical images with electronic cameras, the analysis of the resulting data and its astrophysical interpretation.

**403/803. Galactic and Extragalactic Astronomy** (3 cr) Lec 3. Prereq: PHYS/ASTR 204 and 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: PHYS 212 or 142; and MATH 107. Celestial mechanics; tidal effects; planetary interiors; atmospheres and surfaces; comets; asteroids; and the origin of the solar system. Emphasis on applying physics with which students are already familiar 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.

##### **Physics (PHYS)**

(Exclusive of Astronomy)

**[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.

**[ES] 141 [141x]. Elementary General Physics I** (5 cr) Lec 3, rec 1, lab 3. Prereq: MATH 102 or equivalent. *Credit may not be earned in both PHYS 141 and 151. Lab fee required.* Mechanics, heat, waves and sound.

**[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 may not be earned in both PHYS 141H and 151. Lab fee required.* For course description, see PHYS 141.

**[ES] 142 [142x]. Elementary General Physics II** (5 cr) Lec 3, rec 1, lab 3. Prereq: PHYS 141 or 141H. *Lab fee required.*

Continuation of PHYS 141. Electricity, magnetism, optics, relativity, atomic and nuclear physics.

**[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.

**[ES] 151. Elements of Physics** (4 cr) Lec 3, rec 1. Prereq: MATH 102 or equivalent high school preparation. *Credit may not be earned in both PHYS/ASTR 141 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.

**153. Elementary General Physics Laboratory** (1 cr) Lab 3. Prereq or parallel: PHYS/ASTR 151 or permission. *Lab fee required.* Laboratory experiments in mechanics, heat, and wave motion; to accompany PHYS/ASTR 151.

**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.

**[ES] 211 [211x]. General Physics I** (4 cr) Lec 3, rct 1. Prereq: One yr 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.

**[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.

**[ES] 212 [212x]. 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.

**[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.

**213. General Physics** (4 cr) Lec 3, rct 1. Prereq: PHYS/ASTR 212. Prereq or parallel: MATH 208. Continuation of PHYS 212. Relativity, quantum mechanics, atoms, nuclei.

**[ES] 220. Classical Physics Laboratory** (1 cr) Lab 3. Parallel: PHYS 211 or permission. For students who desire a lab to accompany PHYS 211. Lab fee required. Experiments in mechanics, heat, and wave motion.

**[ES] 222. Physics Laboratory** (1 cr) Lab 3. Prereq or parallel: PHYS 212. Lab fee required. Laboratory experiments in mechanics, electromagnetism, and optics.

**223. Physics Laboratory** (1 cr) Lab 3. Prereq: PHYS 213 preceding or parallel. Lab fee required. Laboratory experiments in electromagnetism, atomic and nuclear physics.

**231. Electrical and Electronic Circuits** (3 cr) Lec 2, lab 3. Prereq: PHYS 212 or permission. Lab fee required. Diode, transistor, and operational amplifier circuits and analog applications; gates, flip-flops, and elementary digital electronics.

**[ES] 261. Liberal Arts Physics** (3 cr) Lec 3. Prereq: 2 yrs high school algebra, sophomore standing or permission. Basic concepts of physics discussed in their historical context and in relation to the intellectual development of man. Includes the early history of physics, the laws of motion, gravitation, planetary motion, conservation laws, energy, kinetic theory of gases, and the nature of scientific inquiry.

**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 PHYS 212 and a lab course in science or engineering, or permission. Lab in engineering or science (biology, chemistry, physics, etc.) Physical principles and techniques of lasers and modern optics introduced. Emphasis on hands-on 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.

**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.

**[IS] 441/841. Experimental Physics I** (3 cr) Lec 1, lab 3. Prereq: PHYS 213, 223, and 231; or permission. Lab fee required. Lectures and laboratory experience in physics designed to familiarize the student with the 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/ASTR 442/842 or permission. Lab fee required. Continuation of PHYS 442/842.

**451/851. Electromagnetic Theory** (3 cr) Lec 3. Prereq: PHYS/ASTR 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/ASTR 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/ASTR 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/ASTR 461 or permission. Basic concepts and experimental foundation for an understanding of the physics of atoms, nuclei, and elementary particles.

**466/866. Thermal Physics** (3 cr) Lec 3. Prereq: PHYS/ASTR 213. Thermal phenomena from the point of view of thermodynamics, kinetic theory, and statistical mechanics.

**470/870. Special Topics in Physics** (1-3 cr, max 9) Prereq: Permission. Offered as the need arises to treat special topics not covered in other 400-level courses.

**480/880. Introduction to Lasers and Laser Applications** (ELEC 480/880) (3 cr) Prereq: PHYS 213. For course description, see ELEC 480/880.

**498. Special Topics in Physics** (1-24 cr) Prereq: Permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Policy Analysis and Evaluation

### (Minor only)

**Coordinator and Chief Adviser: Lyn Kathlene** (political science), 539 Oldfather Hall  
**Faculty:** Berman, Fink, Hayden, Stoddard

The course requirements for a minor in policy analysis and evaluation include:

### Research Training

SOCI 468 (POL 417). Policy & Program Evaluation Research (3 hrs)

*One of the following:*

- ECON 215. Statistics (3 cr)
- GEOG 317. Cartography (4 cr)
- GEOG 411. Field Geography (2-3 cr)
- GEOG 414. Quantitative Methods in Geography (3 cr)
- MNGT 245. Elementary Quantitative Methods (3 cr)
- POLS 280. Intro to Political Research (3 cr)
- SOCI 205. Intro to Social Research (3 cr)
- STAT 180. Elements of Statistics (3 cr) or equivalent

## Policy Analysis

POLS 436. Intro to Public Policy Analysis (3 hrs)

## Government Organization and Policy-making Processes

POLS 210. Bureaucracy & the American Political System (3 hrs) or

POLS 410. The Administrative Process (3 hrs) and ECON 472. Efficiency in Government (3 hrs)

## Practicum (see information below) (3 hrs)

## TOTAL: 18 hrs

**Practicum in Policy Analysis.** Each student is required to carry out an evaluation project in conjunction with a government agency under the supervision of a faculty member in one of the participating departments. The student will do this work as independent study for 3 hours of credit near the completion of the work on the minor so that he or she integrates the sum of classroom experience in the solution of a policy evaluation problem. Inexperienced students as well as students employed full time in a government agency are required to complete this assignment. The Student Employment and Internship Center, 345 Nebraska Union, will help in the placement of students.

## Political Science

**Chair:** John Comer, 509 Oldfather Hall

**Graduate Chair:** Beth Theiss-Morse, 536 Oldfather Hall

**Undergraduate Chair:** John Gruhl, 534 Oldfather Hall

**Professors:** Avery, Combs, Comer, Forsythe, Gruhl, Hibbing, Sittig, Steinman

**Associate Professors:** Humes, Kathlene, Rapkin, Spinner-Halev, Smith, Theiss-Morse

**Assistant Professors:** Heller, McMahon, Wedeman

Courses in political science are designed to acquaint the student with the structure of governments; to understand and analyze governmental policies; to explain institutions and processes; and to provide formal training and advanced degrees and for public service. Students majoring in the department should acquire a broad view of the general field of political science.

**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) 3 hours from POLS 483, 484, 485, 486; c) 6 hours each in any three of the following: political theory; American government, politics, and law; public administration; foreign and comparative government; and international relations; d) 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.

**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 210, 325, 345, 350, 441, 442, 443, and 469. College pre-law advising is located in the Advising Center, 107 Oldfather Hall.

**Graduate School.** Students intending to pursue higher degrees in political science should take POLS 486.

### 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

[ES] 100 [100x]. **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.

**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.

**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.

**227. The Presidency** (3 cr) Creation, development, structure, powers, and functions of the office of the President of the United States.

[ES] 230 [230x]. **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.

[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.

**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.

#### [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.

#### [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.

#### [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

(3 cr) 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 189.

#### [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) *This course may be repeated for up to 6 credit hours.* See description under "Public Administration and Policy" on page 189.

#### [IS] 430/830. Political Communication

(3 cr) See description under "Political Theory, Methodology, and Behavior" on page 189.

#### [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.

#### 820. Core-Seminar in American Government

(3 cr) Refer to the Graduate Bulletin for 900-level courses.

### Foreign and Comparative Government

#### [ES] 104 [104x]. 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

(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] 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 Russian 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.

#### 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.

#### 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.

#### [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

(ANTH, EDPS, GEOG, HIST, MODL, SOCI 478/878) (3-6 cr, max 6) Prereq: Junior standing and permission. 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

### [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.

### 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.

### 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.

### 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.

### [IS] 450/850. The Making of US Foreign Policy (3 cr)

How US foreign policy is made, with attention to public opinion, interest groups, executive-legislative relations, and factors within the executive branch.

### [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.

### 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.

### 465/865. The United States and Latin America (3 cr)

Critical analysis of the relations between the United States and Latin America as a whole, as well as the individual nations of the region.

### 466/866. Pro-seminar in International Relations I

(AECN \*467; ANTH, HIST 479/879; ECON, SOCI 466/866; GEOG 448/848) (3 cr) Prereq: Senior standing and 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: Senior standing and permission. *Open to students with an interest in international relations.*

Topics vary.

### 468/868. Organizing World Order (3-6 cr) *The course may be repeated once for credit if content changes.*

Structures and forces relevant to creation of order in world politics. Content 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.

### 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][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.

### 860. Core-seminar in International Politics (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Political Theory, Methodology, and Behavior

### [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.

### [ES] 385. Democratic Theory (3 cr)

Modern democratic theory beginning with the social contract philosophers of the 17th and 18th centuries. Role of representatives and citizen participation. In addition to looking at several different models of democracies the class also reads critics of modern democracy.

### 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] 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] 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.

### [IS] 483. Ancient and Medieval Political Theory (3 cr)

Important systems of, and contributions to, political thought in the ancient and medieval periods of Western civilization and their relevance to modern ideas and institutions.

### [IS] 484. Modern Political Theory (3 cr)

Major European political theorists from the renaissance to the modern day and their relevance to contemporary ideas and institutions.

### [IS] 485/885. Contemporary Political Theory (3 cr)

Survey of recent literature in political theory that examines a variety of perspectives. In addition to readings in modern liberalism the class considers texts in communitarianism, feminism, identity politics and nationalism among others. Focus on evaluation of the problem of ensuring a just society.

### [IS] 486. Political Analysis (3 cr)

Emphasis on ways of studying politics and social situations generally. Rather than asking what political systems "should" do, the primary questions are what political systems actually do and how we know what they do. Issues include whether the application of the scientific process to social questions is valid, problems in carrying out proper scientific research, and the wide variety of techniques that have been applied to analyze politics.

### 880. Core-seminar in Political Theory (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Public Administration and Policy

### [ES] 210 [210x]. 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.

### [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.

### 395. Internship in Political Science (3 cr) Prereq: Junior standing and 12 hours in political science. *P/N only.* See description under Special Studies.

### [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 (3 cr) See description under Political Theory, Methodology, and Behavior.

### [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.

### 812. Core-seminar in Public Administration (3 cr)

**836. Introduction to Public Policy Analysis** (3 cr) *POLS 836 provides an opportunity for substantive policy analysis in areas of student interest.*

Refer to the Graduate Bulletin for 900-level courses.

## Special Studies, Theses, and Dissertations

### 101. Topics in Government (1 cr)

Brief topical exploration of items of public concern with emphasis on faculty-student interests at the time. Topics vary and could include: political fiction, campaign simulation, nominating politics, and political biography.

[ES][IS] **189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *A University Honors Seminar 189H is required of all students in the University Honors Program.*  
Topics vary.

### 198. Freshman Seminar (3-4 cr)

Topic varies.

**395. Internship in Political Science** (3 cr) Prereq: Junior standing and 12 hours in political science. *P/N only. Student assigned and supervised by faculty director.*  
Internship in government agencies, 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) Prereq: Permission. Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.

### 498/898. Special Topics (3 cr, max 24)

**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:** John J. Berman, 238 Burnett Hall

**Vice Chair:** Dan Leger, 238 Burnett Hall

**Professors:** Berman, Bernstein, Dienstbier, Flowers, Hansen, Howe, Jensen, Leger, Page, Pope-Edwards, Rivers, Spaulding, Thompson, Wilcox

**Associate Professors:** Crockett, Garbin, Hope, Inderbitzen, Tomkins, Willis-Esqueda

**Assistant Professors:** Bevins, Carlo, Raffaelli, Scalora

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 263, 268, 360, 373

*Group 2:* PSYC 287, 288, 289, 380

### 3. PSYC 350

4. One course from each of the following groups:
  - Group 1:* PSYC 460, 461, 463, 465, 467, 473 (or BIOS 462)
  - Group 2:* PSYC 462, 483, 485, 486, 488, 489
5. PSYC 495
6. Any two additional 400-level courses, excluding 496, 497, 499.
7. Total credit hours required: 33

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) *P/N 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.

### [ES][IS] 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.

### [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][IS] 216. Introduction to Psychology and Philosophy (PHIL 216) (3 cr)

For course description, see PHIL 216.

### 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 field.*

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.

### 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.

### [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. The 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. The 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.

### [ES] 289. Developmental Psychology (3 cr) Prereq: PSYC 181 or equivalent. *Not open to students with credit in EDPS 261.*

Developmental approaches to human behavior from conception to senescence. Theories, methods, and results of research.

**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. *P/N is not allowed.* 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. *P/N 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.

[IS] **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.

[IS] **350. Research Methods and Data Analysis** (4 cr) Lec, lab. Prereq: 10 credit hrs in psychology, including PSYC 181; and high school algebra or equivalent. *Laboratory required.* Introduction to the basic methods employed in behavioral and psychological research and the statistical techniques required for describing and interpreting research results. Includes: 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 and one 200-level course in psychology. Introduction to one of the most important human behaviors, language, from the viewpoint of the psychologist.

[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) Prereq: PSYC/BIOS 373 and permission. *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** (3-4 cr) Prereq: At least 6 hrs of PSYC 296 and permission of Keller Plan instructor. *P/N 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** (3 cr) Prereq: 12 hrs psychology or permission. 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).

**425/825. Psychology of Racism** (ETHN 425) (3 cr) Prereq: For psychology majors: PSYC 350. For non-majors: any research methods course. Major terms and issues in psychology that pertain to race and racism in the United States, and general principles of the psychology of racism that are universal. Psychologies of the major racial minority groups in the United States examined through discussion of their unique cultures, histories, traditions, and collective identities. Research methods for studying the psychology of racism reviewed to provide a basis for interpreting research results.

[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.

**445/845. Industrial/Organizational Psychology** (3 cr) Prereq: 12 hrs psychology including one 200-level Group 2 course.

Psychology as it applies to the workplace. Includes: selection tests, job analysis, performance appraisal, worker selection, job satisfaction, leadership, and organizational theory.

**450. Advanced Research Methods and Analysis** (4 cr) Prereq: Completion of PSYC 350 with a C or better. More detailed treatment of experimental research techniques and statistical analyses commonly used in psychology. Includes history of research methods, and introduction to multivariate research methods. The integrated class and lab exercises expose students to both the theory and practice of research procedures, data analyses, and research report writing for single-factor and factorial research designs. Students perform, analyze, and report on an individual research project.

**451/851. Psychological Measurement and Prediction** (4 cr) Lec 3, lab 3. Prereq: 12 hrs psychology or permission. *A course in elementary statistics is highly recommended.* Consideration of theoretical issues and practical problems relating to measurement and prediction in psychology. Interpretation of mental-test statistics.

**456. Developmental Biopsychology** (3 cr) Prereq: PSYC 289 or equivalent, and 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.

**460/860. Human Memory** (3 cr) Prereq: 12 hrs psychology, including PSYC 350.

Issues in human memory within the context of cognitive psychology. Topics: attention, short and long term memory, retrieval processes, semantic memory, how memory is involved in comprehension and knowledge, and how emotion affects memory. Major research paradigms used in the study of memory.

**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.

**463/863. Perception** (3 cr) Prereq: 12 hrs psychology, including one 200-level Group 1 course.

Analysis and comparison of several approaches to the study of current problems in human perception and information processing. Includes 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, FACS, 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.

**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. Includes psycholinguistics, subhuman social behavior, culture and personality leadership, and morale.

[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) Prereq: At least 6 hrs of PSYC 296 and permission of Keller Plan instructor. *P/N is not allowed.*

For students who wish to 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. *P/N 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.

## Science

**Chair, Steering Committee:** William J. Lewis  
(mathematics & statistics) 808 Oldfather Hall

**Mathematics and Science Steering Committee:**

Professors Kirby (physics & astronomy), Lewis (mathematics & statistics), Morris (biological sciences), Parkhurst (chemistry), Reichenbach (computer science & engineering), Smith (geosciences), Veomett (biological sciences)

Courses and programs sponsored by the Mathematics and Science Education Initiative introduce undergraduates to multidisciplinary/interdisciplinary approaches to investigating and understanding the modern worlds through science and mathematics. The interrelationships of the science subdisciplines and mathematics are stressed throughout these offerings.

## Courses of Instruction (SCIE)

**[ES][IS] 185. Science and the Modern World** (3 cr) *Does not satisfy the science laboratory requirements in the College of Arts and Sciences.*

Interdisciplinary course that introduces students to topics in science that are part of an important body of knowledge for all citizens. Intended primarily for the non-science major. Topic varies according to the interests and background of the faculty offering the course but a laboratory experience will be a part of all sections.

**[ES][IS] 185H. Honors: Science and the Modern World** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *Does not satisfy the science laboratory requirements in the College of Arts and Sciences.*  
For course description, see SCIE 185.

## Sociology

**Chair:** J. Allen Williams, Jr., 711 Oldfather Hall

**Professors:** Amato, Brinkerhoff, Deegan, Johnson, McCutcheon, Moore, Ortega, Siegman, White, Whitt, Williams

**Associate Professors:** Benford, Calhoun, Carranza, Lehmann, Parker

**Assistant Professors:** Chapple, McQuillan, Rogers, Wohl

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 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. 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

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 Sociology

- 30 hours, including SOCI 101, 205, 206, 455, 495 (or 399H); and at least 12 hours at the 300 or 400 level. No more than 3 hours total from internship and independent study courses, SOCI 397 and/or independent study 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. **(NOTE:** Exams in SOCI 205/206 and required senior project in 495 to be put in place by departmental faculty.)

Results of participation in these assessment activities will in no way affect a student's GPA or graduation.

## 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)

**[ES][IS] 101 [101x]. 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.

**170. Introduction to Great Plains Studies** (GPSP 100; ANTH, GEOG, NRES 170) (3 cr) *Required for Great Plains Studies majors and minors*  
For course description, see GPSP 100.

**[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.

**[ES][IS] 189H. University Honors Seminar** (3 cr) Prereq: Admission to the University Honors Program or by invitation. *A University Honors Seminar 189H is required of all students in the University Honors Program.*  
Topics vary.

**198. Special Topics** (3 cr)  
Wide range of different topics at the undergraduate level.

**[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.

**[ES] 201 [201f] [201x]. 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.

**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.

**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.

**[ES] 209 [209x]. 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.

**[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.

**[ES] 225 [225f] [225x]. 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 [241x]. 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.

**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.

**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) Prereq: Open to seniors and especially qualified juniors, with 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 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.

**453/853. Sociology of Health and Health Professions**

(3 cr) Prereq: 9 hrs sociology or related social sciences. Critical analysis of the 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 Methods of Social Research I** (3 cr)

Prereq: 9 hrs sociology or related social sciences and SOCI 205.

An intensive analysis of 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. Advanced Methods of Social Research II** (3 cr)

Prereq: 9 hrs sociology or related social sciences and SOCI 205.

Intensive analysis of 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.

**465/865. Survey Design and Analysis** (3 cr) Prereq: 9 hrs sociology or related social sciences.

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) (3 cr) Prereq: Senior standing and 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, FACS, 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.

**475/875. Water Quality Strategy** (AGRO, CRPL, CIVE, GEOL, MSYM, NRES, POLS 475/875; SOIL, WATS 475) (3-6 cr, max 6) Prereq: Senior standing or permission.

For course description, see AGRO 475/875.

[IS] **478/878. Pro-seminar in Latin American Studies** (ANTH, GEOG, HIST, MODL, EDPS, POLS 478/878) (3-6 cr, max 6) Prereq: Junior standing and permission.

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.

**495. Senior Seminar** (3 cr) Prereq: Senior standing and sociology major. It is strongly recommended that SOCI 205, 206, and 455 be completed prior to taking the Senior Seminar. Discipline of sociology designed to bring together in one course the theory, methods, and substantive areas of sociology. Seminar format used in which current monographs are subjected to critical analysis. Information on 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.

**864. Sociological Theory** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Intensive examination of the conceptual structures of selected theorists and of the basis of theory construction and testing.

**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 in the Department of Special Education and Communication Disorders in Teachers College. 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 Teachers College. Both degrees provide the preprofessional courses required in order to apply to a masters program in either speech-language pathology or audiology. The entry level for practice as a speech-language pathologist or audiologist requires a master's degree. For information on programs leading to degrees and for a detailed description of courses required, please see the Teachers College 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

- 52 to 53 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, 473; EDPS 459, SPED 400 or approved elective; biological sciences anatomy (5 hrs) or human physiology (4 hrs).
- Teacher certification in speech-language pathology requires a masters degree, passing scores on the Pre-Professional Skills Test, EDUC 131, EDPS 250, 251, or FACS 160, EDPS 362 and SLPA 488 or CURR 330 or the graduate-level equivalents. Completion of a masters degree with specialization in speech-language pathology is also required for state licensure in speech-language pathology and a masters degree with specialization in audiology for state licensure in audiology.

## Textiles, Clothing and Design

### (Minor only)

Coordinator: Anne Kopera, 107 Oldfather Hall

### Requirements for the Minor in Textiles, Clothing and Design

**Plan B.** At least 12 hours of courses in textiles, clothing and design.

## Theatre Arts and Dance

### (Minor Only)

### Requirements for the Minor in Theatre Arts

- 18 hours including: THEA 112G, 114, 201, 202, 253 or 255, 335 or 336.

### Requirements for the Minor in Dance

- 18 hours: 8 hrs of dance technique including: a total of 4 hrs from both of the primary techniques (ballet and modern dance) and 4 hrs selected from among the secondary techniques (tap, ethnic, folk, social, jazz/musical theatre).

DANC 100, 159, 200; and THEA 201. Dance minors may also enroll for dance performance credits.

## University Studies Program

**Director and Chief Adviser:** Robert S. Haller, 221 Andrews Hall

**Faculty:** Berger (history), Brookes (English), Faulkner (music), Horvay (art), Wishart (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 Professor Haller, 221 Andrews 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.

## Western European Studies

For information on the major see "European Studies" on page 160.

## Women's Studies

**Chair and Chief Adviser:** Name not available at press time, 308 Avery Hall, 472-9300

**Faculty:** Beck (animal science); Kuska (architecture); Mamiya, Stewart (art); Crawford (classics); Miller (criminal justice); May (economics); Bauer, Bhattacharjee, DiBernard, Foster, Harris, Honey, Knippling, Nissé, Pratt, Raz, Ritchie, Rosowski (English); Patton (English, African American Studies); Kleimola, Levin (history); Shavers (law); Brantner, Martinez (modern languages); Kathlene (political science); Deegan, Lehmann, Moore (sociology); Weiss (textiles)

The Women's Studies major is a multidisciplinary academic program with courses in such areas as history, art, sociology, psychology, economics, literature, and political science, which have a special focus on knowledge relating to women.

The program has been designed to help students to learn about historical and contemporary contributions of women in various areas of society; to critically examine assumptions about women held by academic disciplines and to evaluate these assumptions in the perspective of current research and individual experience; and to examine traditional and changing sex roles in various cultures and to explore new alternatives for people.

### Requirements for the Major in Women's Studies

All majors must consult with the departmental chief adviser. A student may pursue a major through either Option A or Option B. Courses from the major must represent a minimum of **five** different disciplinary fields. All majors must fulfill the following requirements:

#### WMNS 400. Senior Seminar (3 cr)

### Introduction to Humanities/Literature and Social Sciences (3 hrs from):

- ENGL 215E. Intro to Women's Literature  
 ENGL 215J. 20th-Century Women Writers  
 SOCI 200. Women in Contemporary Society

### Diversity in Humanities/Literature (3 hrs from):

- ENGL 210B. Sex Roles in Literature  
**NOTE:** The topic for ENGL 210B is "Gay and Lesbian Literature."  
 ENGL 244B. Black Women Authors  
 ENGL 414B. 20th-Century Women Writers

### Theory in Humanities/Literature (3 hrs from):

- ENGL 239A. Women Filmmakers  
 ENGL 315A. Survey of Women's Literature  
 ENGL 315B. Women & Popular Culture  
 ENGL 414D. Feminist Theory & Criticism  
 ENGL 475A. The Rhetoric of Women Writers

### Social Sciences requirement (6 hrs from):

- ANTH 410. Women & Men: An Anthropological Perspective  
 ECON 357. Women & Work in the US Economy  
 PSYC 421. Psychology of Gender  
 SOCI 490. Sociology of Women

**Option A:** 36 hours from the courses listed above or below, including the required courses, which combine to cover a minimum of **five** disciplinary areas.

**Option B:** 30 hours from the courses listed above or below, including the required courses, which combine to cover a minimum of **five** disciplinary areas, and at least 18 hours in a related minor field, to be determined by the chief adviser.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required:

1. To submit for assessment evaluation 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 Studies

- 18 hours of courses in the Women's Studies Program, including at least 9 hours from three departments chosen from the courses listed here:

- ENGL 215E. Intro to Women's Literature  
 ENGL 215J. 20th-Century Women Writers  
 HIST 225. Women in History  
 PSYC 421. Psychology of Gender  
 SOCI 200. Women in Contemporary Society  
 WMNS 400. Senior Seminar

At least one course at the 300 level or above. Additional courses may be taken from the list below.

### Additional Courses for Women's Studies Major and Minor:

- ARCH 481. Women in Design  
 CLAS 340. Women in the Biblical World

CRIM 339. Women, Crime & Justice  
 ENGL 231A. The Brontës & Their World  
 ENGL 253A. Writing of Poetry: Women's Poetry  
 HIST 225. Women in History  
 HLTH 255J. Women's Health Care  
 POLS 485. Contemporary Political Theory  
 TXCD 410. Socio-psychological Aspects of Clothing  
 WMNS 399. Independent Studies (max 6 cr)

## Courses of Instruction (WMNS)

**[ES][IS] 189H. University Honors Seminar** (3 cr) Prereq: Admission to the University Honors Program. A University Honors Seminar is required of all students in the University Honors Program. Topic varies.

**329. Women in European History** (HIST 329) (3 cr) Prereq: Sophomore standing or permission. For course description, see HIST 329.

**399. Independent Studies** (1-6 cr) Arranged. Individual internship experience, independent scholarship or other appropriate projects with an individual Women's Studies faculty member.

**400. Senior Seminar** (3 cr) Aimed primarily at Women's 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 Studies; to tie together diverse materials that the student will have been presented with in the discipline oriented women's courses.

**[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.

## Pre-Professional Programs and Combined Programs

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 of the last 36 hours in residence (see index for guide to rule on residency), fulfill all general education requirements, the comprehensive education program, 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 may apply to the College of Arts and Sciences for permission to participate in the combined course program. For combined 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 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.

## Preprofessional Programs

Many students enter the College of Arts and Sciences intending to pursue studies in an area of the health professions 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.

### 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 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. Law is a service industry; members of the legal profession work for and with their clients to achieve the goals of the law. 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-Medical Technology

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 medical technologist 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 medical technologist is also responsible for confirming the accuracy of test results and reporting laboratory findings to the pathologist and other doctors.

### 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-Nuclear Medicine Technology

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 stud-

ied—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.

### 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. The occupational therapist utilizes practical activities to encourage the recovering patient's involvement in meaningful daily living. 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 correct identified problems.

### 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. Pharmacists must be qualified to assume the special responsibilities of instructing and supervising students and interns. Above all, they must be able to make good use of acquired knowledge and experience in arriving at sound judgments 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-Radiologic 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.

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 Teachers College or the College of Arts and Sciences, he/she should consult the Teachers College Student Services Center, 105 Henzlik Hall, or the Arts and Sciences Advising Center, 107 Oldfather Hall.

## 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 the Arts and Sciences Advising Center, 107 Oldfather Hall, 472-4190.

## 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 Teachers College, 105 Henzlik Hall.
3. Enroll in both the College of Arts and Sciences and Teachers College. Forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.



## Kathleen Farrell

"I have always been number and money oriented, so I majored in both accounting and finance when I was an undergraduate. But when I left the private sector to get my graduate degrees, I knew I wanted to pursue finance because it is forward looking and assigns value based on future expectations. The finance program at Nebraska is organized into finance specialties — business/corporate finance, bank management, insurance, investments, real estate, and international finance — each of which requires judgement in evaluating the future.

"College teaching was always my dream job because it provides challenging intellectual interaction with young people. My primary teaching responsibilities are at the undergraduate level, something I really enjoy because it gives me exposure to students who haven't yet decided what they want to do, are still exploring their interests, and are trying to figure out how they will use their degrees. I think I can make more of a difference in the decisions and lives of students at that level — it is very satisfying to me as a professor. I had professors who served as positive role models for me, and I want to provide that same encouragement to my students."

*Kathleen Farrell is an assistant professor of finance in the College of Business Administration.*



# College of Business Administration

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## About the College

### Mission and Objectives of Undergraduate Degree Program

The **mission of the undergraduate program** in business administration is to prepare students to become responsible members of society and effective members of organizations which may benefit from their business skills and knowledge. Because the context within which every organization operates is a changing social, economic and political environment, we have designed our curriculum to provide students with an understanding of that environment and a broad base for informed decision making.

The **undergraduate educational objectives** of the college are to:

1. **Integrate business concepts** across functional areas.
2. **Develop an understanding of the external environment** (political, social, legal, regulatory, environmental and technological) which affects business organizations.
3. **Internationalize** the curriculum.
4. **Develop technical skills** (critical analysis, communication, analytical and computer) and human relations skills (group dynamics, team building, organization and delegation) to enable students to translate knowledge into action.
  - a. Critical analysis and communication skills enable students to effectively present views, either in writing or through oral presentations, and to analyze and critique the views of others for purposes of decision making.
  - b. Analytical and computer skills enable students to process information under pressure and to appropriately apply methods, procedures and techniques to decision making.
  - c. Human relation skills enable students to understand group dynamics, to work effectively as group members, to build cooperative effort with the teams one leads, and to organize and delegate tasks.
5. **Develop general business knowledge** through core and foundation courses.

6. **Create cohesion and depth in a single business area** by providing areas of major or emphasis in accounting, actuarial science, agribusiness, business administration, economics, finance, international business, management or marketing.
7. **Sensitize students** to ethical issues.
8. **Incorporate contemporary theory and practice** in the learning environment.

The faculty of the College has designed the undergraduate curriculum which leads to a degree of **bachelor of science in business administration (BS)** in conformity with this mission and these objectives. The College emphasizes:

- Information, Discovery, and Retrieval**  
(Module 0): to develop the students' basic skills of analysis, communication, analytical and computer in foundation courses.
- Essential Studies** (Module 1 and 2): to develop the students' understanding of the society in which business operates and assist students in becoming responsible members of society.
- Foundation Business Courses** (Module 3): to provide students a general business background.
- Core Business Courses** (Module 4): to provide students a broad perspective of business areas.
- Major Areas of Study** (Module 5): 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.
- Elective Options** (Module 6 and 7): to round out a student's education with course work in business and non-business areas which compliment students' specific area of interest.

## Administrative Structure

Highlights of the undergraduate program offered by the College of Business Administration include:

### Tradition

Students at the University of Nebraska-Lincoln have been taking courses in business for over 85 years. A School of Commerce was created in 1913, followed by the College of Business Administration in 1919.

### 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 administra-

tion/master of architecture) and two doctor of philosophy degrees. Undergraduate students earning a bachelor of science degree may choose a major or emphasis in: accounting, actuarial science, agribusiness, business administration, economics, finance, international business, management, or marketing. Minors in selected areas outside the College are also available to students, as is the option to double major within the College or to pursue a dual degree with another college.

### Full Accreditation

In 1916, the College, together with Harvard, Northwestern and the University of Texas, was a charter member of the American Assembly of Collegiate Schools of Business (AACSB). Nationally only a small percentage of the schools offering undergraduate or graduate programs in business administration are able to be accredited under the high standards set by the AACSB. Our undergraduate and masters programs meet these high standards and are fully accredited.

### Student Body

The College's 2800-member student body is richly diverse with approximately 10 percent of its enrollment from other countries. Many College of Business Administration students are leaders in campus and community organizations, participate in internship programs, and earn national and regional honors within their disciplines.

### Professional and Business Leaders

The College retains close ties with professional and business leaders. Executives are often invited to speak in classes and to meet with student organizations. Many student organizations are closely affiliated with professional and business organizations in the community. Business internships are often available to students in the College. In addition, the Dean of the College teaches a Business Leaders course, which enables upper-class students to interact with individuals from the business community.

### Community Outreach and Research

Students in the College benefit from the College's community outreach and research activities. Community outreach activities include workshops and seminars for small businesses, development and publication of state and regional business statistics, and economic education training for elementary and high school teachers. Research includes both applied and academic research projects and the resulting analysis has been used by government and industry leaders for decision making.

## Faculty

The College has approximately 65 full time faculty members who are recipients of, or candidates for, doctor of philosophy or juris doctorate degrees from leading institutions. Each of these faculty members is actively engaged in the undergraduate curriculum and teaches either business foundation courses or specialized senior level courses. Effective teaching is highly regarded among the faculty. Over twenty percent of the current faculty have received University teaching awards and approximately one-third have been recognized by the College for their excellence in teaching.

The faculty keeps abreast of changes within their chosen business discipline through active research which often leads to national and international publications and presentations. The faculty currently serve as editor of *Organizational Dynamics* and *Journal of World Business*. Representative publications in which articles by the faculty have appeared include *Accounting Review*, *Academy of Management Journal*, *Journal of Applied Psychology*, *Management Science*, *International Journal of Industrial Organization*, *Journal of Finance*, *International Marketing Review*, and *Journal of Behavioral Decision Making*. Because of their active research records, the majority of the faculty are fellows or members of the Graduate College.

Our faculty is well respected and many have been appointed and elected to leadership positions in state, national and international organizations. Representative organizations in which faculty members have been appointed or elected include the American Institute of Certified Public Accountants Board of Examiners, Association for Evolutionary Economics, Administrative Board of the Huebner Foundation at the Wharton School, the Academy of Management, the Pan-Pacific Business Association, National Decision Science Institute, and the Research Advisory Council of the Gallup Organization.

**Visiting scholars and executives** enrich the full time faculty of the College. The scholars and executives are selected because of their national or international reputations within their discipline. Students, as well as the business community and faculty, have an opportunity to meet with these scholars through regularly scheduled classes, lectures and workshops.

## Centers, Institutes, Special Programs

The outreach and research activities conducted by the College enhance its undergraduate program and are designed to assist Nebraska businesses, to implement research projects and to facilitate economics education in the primary and secondary schools. The College directs these activities through centers and bureaus to coordinate the efforts of faculty and students. College centers, bureaus, and special programs include:

### Advanced Information Technology Laboratory

The mission of the Advanced Information Technology Laboratory is twofold: to conduct research and teaching in integration of advanced information technology into management and transfer expertise to industry; and to conduct research and teaching in managerial, organiza-

tional, and social implications of information systems and transfer expertise to industry. The lab is sponsored by Nebraska Bankers Association, UNL Vice Chancellor's Office for Research, and UNL International Affairs Office. Research areas include information systems architecture of world-class organizations, business process reengineering and activity-based costing, virtual organizations on the Internet, and object-oriented applications development.

### Bureau of Business Research (BBR)

The mission of the Bureau of Business Research (BBR) is to provide accurate, objective, and reliable information and analysis. BBR specializes in economic impact assessment, demographic and economic projections, survey design, and the compilation and analysis of data. BBR staff comprises expertise in economic and demographic analysis, statistical modeling, and data management.

BBR conducts research and provides consultations to individuals and organizations in the public and private sector. It is a leader in the presentation of data and information, utilizing the latest in GIS and interactive technologies to present research results. In addition to commissioned research and individualized consultations, BBR publishes a monthly newsletter, ***Business in Nebraska***, which presents articles by authorities on business conditions, economic and demographic trends, and public policy issues affecting Nebraska. Real-time data on retail sales, employment, and other economic indicators are regular features of this publication.

The Bureau's on-line electronic information system, NU ONRAMP, provides the public with internet access to a wide variety of the most current data series available in electronic form. Agencies reporting data on NU ONRAMP include the Bureau of the Census, Bureau of Economic Analysis, USDA, Nebraska Department of Revenue, and Nebraska Department of Labor. Subjects available on NU ONRAMP include population, employment, personal income, retail sales, and vital statistics.

### Business Seminars

The Management Development Certificate Program is a series of six-hour seminars offered by the University of Nebraska-Lincoln, College of Business Administration, Department of Management. The program includes instruction in areas that are basic to every management position. The Advanced Management and Executive Development Certificate Programs focus on specialized areas of management to keep managers up to date on the latest management trends. Seminars are designed to help improve effectiveness as a manager, enhance leadership skills, and expand knowledge in crucial areas of management.

### Center for Albanian Studies

The goal of the Center for Albanian Studies is to assist Albania in the transition to a productive and successful market-driven economy consistent with the United States Seed Act Assistance Strategy Update for Albania, 1994-1996, as submitted by American Embassy Tirana and approved June 20, 1994. The specific goals of this continuation program are to reinforce the new academic infrastructure that will train Albania's future business leaders and managers through the first ever MBA program at the University of Tirana, to establish the role of the

university as a continuing source of business planning and development expertise through their adjunct business assistance centers, and to respond to the special training needs of Albania's business and academic institutions with focused seminars and workshops.

### Center for Insurance and Risk Management

This Center draws upon the resources of strong insurance and actuarial science programs in the College to study insurance risk management problems. Studies include identification and analysis of major and minor loss exposures faced by business firms, the effectiveness of various forms of public and private insurance, and current insurance issues.

### Communication Laboratories

Through the College communication laboratories, students in designated business classes work in teams to develop their writing, speaking and human relation 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.

### Computer Services-New Horizons

New Horizons is a package of electronic products and services designed to facilitate maximum access to computing technology by students, faculty, and staff throughout the UNL College of Business Administration. The goal of New Horizons is to create a seamless link between the users of computing technology and the tools necessary to meet their needs.

New Horizons strives to bring the latest in computing technology to students in and out of the classroom. The College of Business Administration houses both fully-equipped computer classrooms and traditional classrooms with electronic teaching consoles. The Coe Computer Center is one of the top student computing labs on the UNL campus. The Coe Center offers students the latest versions of a wide variety of software applications, IBM-compatible microcomputers, fee-based laser printing, scanning, specialized databases, and direct access to the World Wide Web. Technical support staff are available at all times.

### Cornhusker Funds

The College offers seniors and graduate students a unique opportunity to manage an investment portfolio of approximately \$1,000,000 known as the Cornhusker Funds. The funds began in 1981 with \$10,000. During its history, this student-managed fund has outperformed the S&P 500 each year.

### Nebraska Center for Entrepreneurship

The mission of the Center is to enable and inspire world-class entrepreneurs through both traditional and nontraditional learning strategies.

Utilizing a vibrant partnership with the business community and nationally prominent entrepreneurs, the Center offers a cluster of undergraduate and graduate courses aimed at preparing students to establish and build successful businesses. Non-credit programs include apprenticeships, internships, venture capital assistance, the Donald Duncan-Duncan Aviation National Business Plan Contest and numerous

seminars and workshops. The College of Business Administration is recognized by *Success* magazine as one of the Top 25 MBA programs for entrepreneurs, and the United States Association for Small Business and Entrepreneurship named the Center's undergraduate program as one of its National Model Entrepreneurship Programs.

## Nebraska Council and Center on Economic Education

The Nebraska Council on Economic Education, affiliated with the University of Nebraska and the College of Business Administration, coordinates state-wide training programs for elementary and secondary teachers in economics, develops new instructional materials, consults with school districts and conducts research and evaluation studies. The Council provides this training through Economic Education Centers located at Chadron State College, Wayne State College, UNK, UNO, and UNL. The UNL Center for Economic Education, in cooperation with the Teachers College, coordinates the work of the university in economic education. The National Council on Economic Education (with which the Nebraska Council is affiliated) selected the UNL Center to serve as a specialized center for research for its national network of 275 college- and university-based centers for economic education.

## Scholarships

In addition to the scholarships awarded by the University, the College of Business Administration awards a limited 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.

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 upperclass scholarship from the College. To submit an application for a College awarded scholarship, these students must file:

1. An upperclass scholarship application with the University Office of Scholarships and Financial Aid,
2. A Free Application for Federal Student Aid (FAFSA), available at the University Office of Scholarships and Financial Aid, which is used to determine eligibility for need-based aid, and
3. A CBA Scholarship Application with the Dean's Office for Undergraduate Programs at the College of Business Administration.

CBA Scholarship Application Packets are available from the Dean's Office for Undergraduate Programs beginning in mid-November and are due March 1. Interested students should check with the Dean's Office for Undergraduate Programs to determine the exact due date for scholarship applications.

## Academic Advising

The academic advising responsibilities for students appear in "Students Responsibilities in Academic Advising" on page 9. Students are responsible for fulfilling requirements of the curriculum.

### Dean's Office for Undergraduate Programs

**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 of the Dean's Office for Undergraduate Programs 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, such as career or personal counseling. For assistance, students must provide an updated copy of their check list and if appropriate, their senior check.

**Faculty Adviser.** Each student in the College is 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 is 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.
- Schedule appointments with advisers well in advance of priority registration and at other times as needed. Keep appointments and be punctual, or call to cancel and reschedule if necessary.
- Read the appropriate Undergraduate Bulletin to plan which courses they want and need to take each semester.
- 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 by letting them know of any 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 degree or program requirements, and initiate a degree audit after 85 hours.
- Maintain an up-to-date check sheet of academic progress, which is required for each advising session.
- Check their progress early each semester with the Undergraduate Advising Office and immediately seek assistance to resolve any concerns or questions should they arise.
- Act on recommendations to seek assistance from the various student support services provided by the University.

## 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 31.

The College also has an Honors Plus Advisory Group consisting of honors students in the College of Business Administration. These students interact directly with faculty members in the College and schedule special activities for honors students. Students interested in becoming part of this group should contact the Dean's Office for Undergraduate Programs.

## J.D. Edwards Honors Program

The purpose of the J.D. Edwards Honors Program in Computer Science and Management is to produce top quality 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 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 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 J.D. Edwards Honors Program are encouraged to contact the director of the program, Steve Dunbar, 256 College of Business Administration, 472-7236.

## 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. (Honorary student organizations which include academic excellence as a requirement for membership are discussed further under "Student Organizations" on page 202.) 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, issued in spring for students enrolled the fall semester and in summer for students enrolled the spring semester, recognizes undergraduate students who completed 12 or more hours for a grade (excluding hours with P, NP, NR and I marks) during the semester and have earned 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). Students residing in Lincoln for the academic year but wanting their name published in their home town newspaper (i.e. Omaha) will need to list their home town address as the next of kin address. Address changes can be made through 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.

### Business Leaders-MNGT 198E

Designed for junior and senior Dean's List students, this 1-credit-hour course gives students an opportunity to interact with key administrators from the business community. Enrollment is by invitation only.

### 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.

## Student Organizations

All students are encouraged to join at least one College student organization to help them develop their leadership skills and to interact on a social and professional level with students, faculty, and business leaders who share their interest. The College sponsors several student organizations intended to meet different student needs. Beginning in their first year, students, generally, may join any student organization in the College with the exception of honorary student organizations. Membership in these honorary organizations is based on outstanding academic performance within business or economics and, typically, students are invited to join in their junior or senior year.

Three basic types of student organizations are sponsored by the College: interdisciplinary, specific business field, and honorary. A partial list is provided below. Additional information on all student organizations sponsored by the College may be obtained in the Dean's Office for Undergraduate Programs.

### Interdisciplinary Student Organizations

Interdisciplinary student organizations sponsored by the College attract members from all fields of business administration and economics. Activities and focus of the organizations, however, will vary.

**Alpha Kappa Psi** is a coed business fraternity which strives to develop business leaders. The fraternity promotes the study of business brotherhood, scholastic achievement, and community service through professional speakers, business tours, social activities, and community service projects.

**Collegiate Entrepreneurs of the Heartlands** seeks to create a network to address issues important to young entrepreneurs, such as gaining credibility despite youth, developing an awareness of franchising and creating an opportunity for networking. Guest speakers include successful entrepreneurs.

**Delta Sigma Pi** members, majoring in all the fields of business administration, share their similar interests by joining this professional coeducational business fraternity. The fraternity sponsors speakers, in and out of state tours, banquets, community service projects and social events.

**Phi Beta Lambda (FBLA)** is a nationwide organization for students interested in business and leadership development. This organization offers students the opportunity to compete in business events at conferences across Nebraska and the US.

**Student Advisory Board** is selected by the students of the College to promote functions of the College, to serve as student representatives on faculty committees, to coordinate student organization activities and to contribute to the general welfare of the College.

**Students in Free Enterprise (SIFE)** is for students interested in starting a business or networking with other student entrepreneurs. Members can join the Students in Free Enter-

prise team. This team competes nationally with other colleges and universities in several developmental programs.

### Undergraduate Women in Business

provides students who are interested in issues relevant to women in the College an opportunity to join together in discussion of business issues and to network with professional business women in all fields. Open to both men and women.

### Student Organizations Devoted to a Specific Business Field

Some students prefer an opportunity to explore issues related to a specific business field and these organizations fill that need.

**Actuarial Science Club** members explore opportunities in actuarial science through various club sponsored activities.

**Finance Club** members have an opportunity to interact with employers from the financial fields of business and industry and to experience internal operations of financial institutions.

**Institute of Management Accountants (Student Affiliate)** sponsors discussions, forums and guest speakers of interest to accounting students. Members are eligible to attend meetings with the local professional chapter of IMA, providing students an opportunity to meet accountants from the public, private, academic and governmental sectors.

**Marketing Club**, in addition to hosting speakers, mixers, field trips and social activities for members, conducts market research and prepares marketing plans for business firms and nonprofit organizations.

**Society for Human Resource Management** is open to students who have completed a personnel-related course or expressed an interest in a career in the personnel field. Members explore career options in this field through their activities.

### Honorary Student Organizations

Several student honorary organizations exist in the College. Membership is by invitation from the organization and is limited to junior and senior students who meet the academic requirements.

**Beta Alpha Psi** is the national honorary fraternity comprised of accounting students who have completed their first semester of intermediate accounting and who meet both the required overall and accounting grade point average.

**Beta Gamma Sigma** is the national scholastic honorary fraternity in business administration.

**Omicron Delta Epsilon** is the national honorary society in economics.

## Careers

The College students are served by the University **Career Services** (230 Nebraska Union) which offers job placement service to students and alumni and is available to 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 presents workshops on resume writing, interviewing, conducting a job search and offers career counseling. To better serve the students of the College, one staff member from that office is assigned to the College and presents many of these workshops within the College.

Student internships are available through the **University Student Employment and Internship Center** (345 Nebraska Union). 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 experience which can be useful in making career choices. Representative internships include public accounting firms, banks, insurance companies, oil and gas industries, senator's offices and hospitals.

## International Programs

As the US economy continues to become increasingly global, the opportunity for success by business professionals will be enhanced by knowledge of a foreign language and an understanding of other cultures. A global perspective is developed in many of the business courses and overseas study is encouraged. The College, along with the offices of Summer Sessions and International Affairs, has developed and is continuing to develop unique overseas programs for students in the College. Some of the representative programs are: Senshu University, Tokyo, Japan; Oxford University, England; the Global Study Tour; and Institute Technologico y de Estudios Superiores, Monterrey, Mexico. More recent programs include study opportunities in Italy, China and Germany and future interests may give students a look at business in India.

Proficiency in a foreign language is not required for all overseas programs. Foreign language study, however, is often a part of the programs. All programs include tours of businesses, cultural excursions and attendance at musical or theatrical performances. For instance, students taking part in the Summer Program at Oxford University, England will visit Westminster Abbey, the House of Commons and Stonehenge. They will attend Shakespearean plays at Stratford-upon-Avon and symphonies at London's Royal Albert Music Hall.

Programs vary in length and time of year. The programs in England, China, and Mexico are summer programs ranging in length from three to four weeks. The program at Senshu University is in the fall semester and the opportunities in Mexico and Italy can be extended to a year.

In addition to these programs, the International Affairs Office of the University offers a wide range of opportunities for study abroad. Students should contact either the International Affairs Office, 420 University Terrace, or the Dean's Office for Undergraduate Programs for additional information.

## Admission to the College

### Student Classification in the College

Students, when admitted to the College, receive **first year standing** if they meet the entrance requirements explained below. 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.

#### First Year Standing

The College of Business Administration requires the following for new admissions:

**English** (4 years)–All units must include intensive reading and writing experience.

**Math** (4 years)–Must include Algebra I, II, and geometry, and one additional unit that builds on a knowledge of algebra or geometry.

**Social Studies** (3 years)–At least one unit of American and/or world history and one additional unit of history, American government, and/or geography, and a third unit drawn from any social science discipline.

**Natural Science** (3 years)–At least two of the three units selected from biology, chemistry, physics, and earth sciences. One of the units must include laboratory instruction.

**Foreign Language** (2 years)–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 course work for admission.

In addition to meeting the core course requirements for assured admission, you must rank in the *upper half of your high school class* or have an *ACT composite score of 20 or higher* or an *SAT total score of 950 or higher*. If you do not meet the requirements for assured admission, you should still apply. Your application will receive individual review for demonstration of potential for success at university-level work.

A student deficient in any specific entrance requirement of this College should make every effort to remove this deficiency before entering the University. This can generally be accomplished through summer school or through the University of Nebraska-Lincoln Division of Continuing Studies and in all cases, the Admissions Office must be contacted to verify that course work selected after graduation will satisfy the deficiency. Credits so earned may not be applied toward a degree program. **Credit is not applicable toward degree requirements for any course considered as a high school deficiency class nor for any skills development courses.**

New students should plan their first year of course work very carefully to ensure eligibility for enrollment in sophomore-level courses. This would include completion of 27 hours of college credit.

See "Removal of Deficiencies." on page 5 for University policy regarding completion of required deficiency course work, as well as consequences for failure to remove admission deficiencies within the stated time frame.

**Math Placement Exam (MPE).** 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 95c (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, 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.

Records are checked to verify students are enrolled in the appropriate math course. Students, therefore, must follow the recommendations of the Math Placement Exam. The test can be retaken if students feel they can prepare and improve their performance on the exam.

#### Sophomore Standing

For admission to sophomore standing, a business student must complete the freshman entrance requirements of the College and must earn a minimum of 27 semester credit hours to enroll in courses offered at the 200 level in business. Business students must have a minimum cumulative grade point average of 2.5 to enroll in courses offered by the College.

Students from other colleges wishing to enroll in business courses must be in good standing, have sophomore status, and the specific course prerequisites to enroll in courses offered by the College.

#### Junior Standing

To achieve junior standing in the College of Business Administration, a student must have completed 53 hours of credit to enroll in any 300/400-level business course. In addition, business students must maintain a 2.5 cumulative grade point average to be enrolled in business course work, and all students must meet specific course prerequisites. At a minimum, business students will also be expected to have completed Module 0; Module 1: Area A and B; Module 2: Area A; and Module 3 prior to enrolling in Module 4, 5, and 6 business course requirements.

To meet these requirements involves planning. For instance, specific course prerequisites for a majority of the foundation and core courses require careful course planning and sequencing beginning in the first year. Questions regarding this process should be addressed to the Dean's Office for Undergraduate Programs.

## Senior Standing

To achieve senior standing, a student must have completed 89 hours of credit. In addition, business students must maintain a 2.5 cumulative grade point average to be enrolled in business course work, and all students must meet specific course prerequisites. At a minimum, business students will also be expected to have completed Module 0; Module 1: Area A and B; Module 2: Area A; and Module 3 prior to enrolling Module 4, 5, and 6 business course requirements. A minimum 2.5 cumulative grade point average is required for graduation.

## 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 (C+) 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; 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 hours which may be transferred.

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 may transfer (after departmental validation of credit); and a maximum of 50% of the course work required for the major may transfer. Students may not choose which courses to transfer. All hours are validated using the procedure described above and acceptance will be determined by the departments and the Dean's Office for Undergraduate Programs. 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 an off-campus institution in which a D or F grade was received (note exceptions below); and accepts grades of P (for maximum of 9 credit hours) only to fulfill electives.

**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. Transfer course work may be used to meet the Module 0 requirements and the Essential Studies requirements for Modules 1 and 2 as long as course titles appear to match the listed courses. Course work that does not match in title will be accepted for elective credit, as long as it meets other College requirements for credit.

Integrative Studies [IS] requirements for the College and University must be completed at UNL, but will be prorated for transfer students, based upon the number of semester hours of academic credit accepted for the degree program. Please refer to "Transferring Credit Toward Comprehensive Education Requirements" on page 29 for further information regarding the transfer of Integrative Studies [IS] requirements.

Business course work completed from an AACSB institution (American Assembly of Collegiate Schools of Business) may be accepted to fulfill requirements for Module 3. Other business course work, or business course work from an institution other than an AACSB school, will be accepted for proper placement (validation) once a transfer student meets with the appropriate department(s) to determine UNL equivalencies.

In instances where the University has determined the institution to be such that credit is accepted only upon departmental 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. 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, which require grades of C. 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 same guidelines noted above on the acceptance of courses, grades, hours, and level of courses also apply to these institutions.

**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.

## Readmitted Students

Students readmitted to the College of Business Administration who previously left the College in good standing (including the minimum 2.5 GPA requirement) may return to the College. Students will, however, be required to follow current requirement guidelines of the College. Instructions to request a waiver of this policy are available in the Dean's Office for Undergraduate Programs.

Students who left the College on probation (below the minimum 2.5 GPA requirement) may not return to the College until they have met the minimum 2.5 GPA requirement. At that time, they may transfer back to the College of Business Administration, 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 because of GPA problems.

## International Students

International students seeking admission to the College are required to have a TOEFL Score of 523 (paper-based score) or 193 (computer-based score) and complete ENGL 186 at the University. (Exceptions to this requirement will be made for University of Nebraska-Lincoln exchange students and will be considered for others on a limited basis.) **If the TOEFL Score of an international student admitted to the College is below 550, the student should anticipate an additional semester of study at the University before being permitted to take courses within the College in order to bring their English up to an appropriate level.**

International students, upon arriving at the University, are required to take the English Placement Exam to determine the appropriate placement in an English speaking and writing course. An international student must make up any deficiencies demonstrated by the Placement Exam results.

International students taking ENGL 188 substitute that course for the composition course required in Module 1 of the College curriculum. In other respects, **international students must follow the same curriculum requirements as other students. The guidelines applied for Transferring from Universities and Colleges Outside of Nebraska also apply to international students. Acceptance of transfer credits and any additional required course work will be determined by the Dean's Office for Undergraduate Programs. As previously noted, a maximum of 66 hours transfers from a foreign institution.**

## College Academic Policies

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 in the back of this bulletin.

## Registration

### Enrollment and Eligibility

In an effort to match resources with enrollment and simultaneously meet accreditation standards, the College has a policy of restricted enrollment for undergraduate students. This carefully devised plan insures that the College does not make commitments to more students than it can adequately serve. The requirements are as follows:

1. Students who enter the College of Business Administration must maintain a 2.5 cumulative grade point average to be enrolled in business course work, and all students must meet specific course prerequisites. At a minimum, business students will also be expected to have completed Module 0; Module 1: Area A & B; Module 2: Area A; and Module 3 prior to enrolling in Module 4, 5, and 6 business course requirements.
- a. College of Business Administration students who have a cumulative GPA lower than 2.5 after 12 or more hours of course work at UNL will be placed on College probation and will not be permitted to register for courses in the College unless they are repeating a course in which they received a grade of D or F, and then they will have lowest priority for enrolling in the course(s). (This probation status is not the same as UNL's probation policy.)
- b. Since this enrollment policy is not enforced in the Summer Sessions, students may take courses in the summer to raise their grade point average to the minimum requirement.
2. Students from other colleges on campus wishing to enroll in a course offered by the College of Business Administration (through the School of Accountancy, and the programs or departments of actuarial science, economics, finance, management, or marketing) must: have a minimum 2.0 cumulative GPA and 27 (for 200-level enrollment) or 53 (for 300/400-level enrollment) accumulated hours of credit; and specific course prerequisites to enroll in business courses. In addition, no more than 25 percent of the course work required for their degree may be completed in business classes.
3. All students enrolling in courses within the College are expected to **complete all prerequisites prior to enrolling** in the course. If a student fails to do so, the College may administratively withdraw the student from the course.
4. Students in the College of Business Administration must earn a minimum of 64 credit hours outside the College.

5. All students must complete in residence at the University of Nebraska-Lincoln, not less than 30 of the last 36 hours required for their degree and at least 50% of their business course requirements and 50% of their major area or emphasis requirements from the College of Business Administration at UNL.

### Academic Load

A maximum of 19 credit hours 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 16 credit hours each semester. Although this is certainly possible, even 16 credit hours is often inadvisable. Consequently, a majority of university students throughout the country are now taking five years to complete a degree. This is particularly necessary for students interested in accounting who plan to be certified public accountants.

Most new students are advised to take 12 credit hours their first semester. This allows new students to make an easier transition from high school to college where course requirements are more rigorous. Most students need a minimum of two hours of preparation for every hour in class, so a schedule of 12 credit hours is actually equivalent to a 36 hour a week job (12 classroom + 24 preparation).

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.

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 School of Accountancy and the departments or programs of actuarial science, economics, finance, management, and marketing, 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.

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 (P/N) option is designed for students who want to study 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. Not all classes, however, can be taken under the pass/no pass (P/N) option because the faculty of the College believes the student should be adequately prepared for the required courses and the P/N 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.

#### A. When the pass/no pass (P/N) option is not available to students:

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 P/N option.
2. College of Business Administration students may NOT take course work to satisfy Modules 1, 2, 3, 4, and 5, the International Course Requirement (ICR), Essential Studies nor Integrative Studies using a P/N option. If they do, the course will NOT apply to fulfill their degree requirements.
3. Students who are majoring in actuarial science through the College of Business Administration may NOT take any math, actuarial science, or required courses using the P/N option.
4. College of Business Administration students may apply no more than 9 hours using the P/N option.
5. College of Business Administration 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 these rules restricting use of the P/N option if courses in their minor are used to meet their Module 1 and 2 or any college-specific requirements.
6. Students seeking any minor outside the College should verify rules applying to P/N 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.

#### B. Exceptions to the above rules are limited to the following and no other exceptions will be made.

1. An independent study course (399) may be taken in the College of Business Administration using the P/N 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 (399) **only** as a business elective (Module 6).
2. Because the Economics Department serves majors from both the College of Arts and Sciences and the College of Business Administration, economics courses taken on a P/N option may be used as business electives (Module 6) **only** with permission of the economics department undergraduate adviser.
3. Advance Placement grades of P and Credit By Exam grades of P will be accepted to fulfill degree requirements. These hours will not count as part of the 9-hour-maximum hours permitted.
4. Students who travel abroad and return with "credit" rather than grades from the institution with whom 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 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 files 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 381 of this bulletin, have been violated. The Committee may be contacted through the departmental 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 Academic Planning Committee of the College. The Academic Planning Committee may be contacted through the Dean's Office for Undergraduate Programs.

## College Graduation Requirements

General graduation requirements are in addition to the curriculum requirements discussed in the paragraphs which follow and include:

1. **Credit Hours and Grade Point Average.** A minimum of 128 semester hours of applicable credit and a minimum 2.5 cumulative grade point average is required to earn the degree.
2. **Grades.** Grades of 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). Students who receive a grade of D, however, are **encouraged** to retake the course. In addition, grades of D do not transfer from other institutions (except UNO and UNK, with similar accounting restrictions noted).
3. **Requirements.** It is the responsibility of the student to be informed about requirements for graduation and to see that these requirements are met during the period of attendance in the College. Students should read the bulletin **very carefully** to avoid a delay in graduation because they took incorrect courses to fulfill requirements. **In addition, students should be aware that requirements may change and they will be expected to comply with these new requirements.** Students should consult with the Dean's Office for Undergraduate Programs staff for any questions they have concerning their requirements.
4. **Bulletin.** 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 current degree requirements at the time they re-enter the College.

5. **Course Exclusion and Restrictions.** 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. College-level courses taken to satisfy an admission deficiency do not count for credit towards the program. In addition, the College of Business Administration does not accept any introductory computer course training in DOS, word processing, spreadsheets, data base management or other business software packages. This would include MNGT 198D, CSCE 137, 237, and other courses offered at the University similar in nature, or transfer course work similar to these classes. Any other skills-based courses, such as LIBR 110, may not be counted toward graduation requirements. Examples of additional restrictions include:
  - a. any restrictions noted specifically by departments. An example would be credit not permitted for both MATH 104 **and** 106.
  - b. completion of at least 50% of business credit hours and 50% of major or emphasis credits inside the College at UNL,
  - c. a minimum 30 of last 36 hours in residency,
  - d. an "international course" designated on the international course requirement list for a grade,
  - e. a maximum of 9 hours of pass/no pass credit in business and non-business electives only, and
  - f. a maximum of 16 hours military science, naval science, and aerospace studies.
6. **Residency Requirements and Correspondence Courses.** 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. Correspondence and summer reading courses do not count toward residency.
7. **Special Requests for Substitutions or Waivers.** The faculty of the College has established degree requirements. Any exceptions to these policies are made 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 curriculum requirements. 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 a substitution or waiver of the faculty as represented by the Academic Planning Committee.
8. **Degree Audit.** During the second semester of the junior year, students should apply for a check of their academic records and progress to ensure all requirements will be met before the anticipated graduation date. This check is requested at 107 Canfield Administration Building. During peak times in the semester, this check could take 8-12 weeks to prepare. Students should plan in advance to have this information available in time for course registrations. Students must also provide this, as well as a check list, when seeking assistance from the advisers in 138 CBA.
9. **Application of Degree.** Each student who expects to receive a diploma must have a minimum 2.5 cumulative grade point average and file an application for candidacy for the diploma in the Office of Registration and Records, 107 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 correspondence, by clearance of incompletes, by enrollment at another institution, by special examinations, etc.); and of any revision of such plans. In addition, any change in address or phone number should be specifically directed to this office (and updated through the NRoll procedure) if concerns or problems arise to avoid a postponement of graduation until a later semester.

## Degree Programs and Areas of Study

Students graduating from the College of Business Administration will be awarded a bachelor of science (BS) degree. 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 actuarial science, agribusiness, business administration, economics, finance, international business, management, and marketing. The School of Accountancy offers an emphasis (similar to the major) in accounting. 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 programs to determine the College requirements that best meet 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 ethi-

cal 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 of Arts and Sciences and Fine and Performing Arts, students in the College of Business Administration may minor in:

African Studies  
 African American Studies  
 Agricultural Economics  
 Anthropology  
 Art or Art History  
 Asian Studies  
*Astronomy (see Physics)*  
 Biological Chemistry  
 Biological Sciences  
 Chemistry  
*Chicano Studies (see Latino and Latin American Studies)*  
 Civil Engineering  
 Classics  
 Communication Studies  
 Computer Science  
*Conflict and Conflict Resolution*  
*Dance (see Theatre Arts and Dance)*  
*Diversified Agricultural Studies*  
 Education  
 English  
 Entomology  
 Environmental Studies  
 Ethnic Studies  
 European Studies  
 Family and Consumer Sciences  
 Film Studies  
*French (see Modern Languages)*  
 Geography  
 Geology  
*German (see Modern Languages)*  
*Great Plains Studies*  
*Greek (see Classics)*  
 History  
*Individualized Program of Studies*  
*Italian (see Modern Languages)*  
*Judaic Studies*  
*Latin (see Classics)*  
*Latino and Latin American Studies*  
 Mathematics and Statistics  
 Medieval and Renaissance Studies  
*Meteorology-Climatology (see Geosciences)*  
 Music  
 Native American Studies  
 Philosophy  
 Physics  
*Policy Analysis and Evaluation*  
 Political Science  
*Portuguese (see Modern Languages)*  
 Psychology  
*Religious Studies (see Classics)*  
*Russian (see Modern Languages)*  
 Sociology  
*Spanish (see Modern Languages)*  
 Textiles, Clothing and Design  
 Theatre Arts  
 University Studies  
 Women's Studies

To determine the specific requirements for these minors (including grading options), the student must consult the 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. The College further restricts the use of "business college course work" to count for any minor requirements.

**Other Options.** In addition to the above minors, a **military science** minor is available through the Military Science Department and students should contact their office to determine the requirements.

## Minors Within the College

Because all students in the College will take a common foundation of business courses, the faculty has chosen not to permit students who are admitted to the College to minor in a business field. University students who are outside the College, however, may minor in business if their own college permits such a minor and the faculty of the College of Business Administration has approved the curriculum for the minor. The College of Business Administration has cooperated with the colleges of Arts and Sciences, Fine and Performing Arts, Human Resources and Family Sciences, and Journalism to structure an appropriate curriculum built around the foundation business courses for students who wish a business minor. Students outside the College of Business Administration should discuss the specific requirements for this minor with the adviser in their own college.

## Other Emphases/Tracks

In addition to the required major and the option to complete a minor (or minors), students in the College of Business Administration also have the opportunity to complete an international business emphasis. In addition, management majors can emphasize areas of concentration in human resources, entrepreneurship, strategic management, or systems and operations management. And, marketing majors can pursue tracks in merchandising or merchandising/design. 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.

## 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 Teachers College Student Services Center, 105 Henzlak Hall, for details.

## Curriculum Requirements

The undergraduate curriculum requirements in the College of Business Administration consist of a minimum of 128 hours. The requirements are described in the following sections as Modules, and with the exception of Module 0, no pass/no pass course work may be accepted for Modules 1, 2, 3, 4 and 5. A total maximum of 9 hours of credit can be taken pass/no pass, and those hours generally fall in Module 7.

From a broad perspective, the requirements of the college are composed of the following:

**(1) The University's Comprehensive Education Requirements.** (See page 13 for a complete description of these requirements). For Modules 0, 1, and 2, this includes course work to satisfy Information Discovery and Retrieval, Essential Studies, and Integrative Studies. Part of the University's Comprehensive Education Requirements is the Co-Curricular Experience (as described on page 14). This is not required, but is highly encouraged by the administration and faculty of the College of Business Administration. Staff in the Dean's Office for Undergraduate Programs can provide a handout and discuss opportunities for completing this experience.

**(2) Business Administration Requirements.** Completed with principles, core, and major business administration course work, Modules 3, 4, and 5 are designed to give students a broad exposure to the field of business, as well as provide students the opportunity to concentrate course work in a major field of business.

**(3) Business and Non-Business Elective Requirements.** Modules 6 and 7 allow students the flexibility to include additional business and non-business course work in their program. An additional major, minor, option, or emphasis might be taken here or a student may simply accumulate additional hours to satisfy individual interests and needs.

**(4) International Course Requirement (ICR).** All students in the College of Business Administration are required to complete one ICR to meet the College's accreditation requirements for global exposure in a business or non-business discipline. This course, selected from an approved list of classes, may simultaneously fulfill one of the Module 1-7 requirements.

**(5) Integrative Studies [IS].** As described in (l) above, students must complete the Integrative Studies requirements for the Comprehensive Education Program. Important points to remember in completing these requirements include:

- a. A minimum of **TEN** Integrative Studies [IS] courses must be completed. (This usually accounts for approximately 30 hours of credit).
- b. **ONE course each** must be completed at the 200 and 300 and 400 level. (Credit earned prior to Fall, 1995 does not count for IS credit; however, required hours will be prorated according to hours completed at that time.)

- c. Students with 66 hours of transfer course work applicable toward the degree will not be required to meet the 200-, 300-, or 400-level requirement. In addition, the number of IS courses required for transfer students is prorated according to the "Transfer Credit Toward Comprehensive Education Requirements" as described on page 29.
- d. **A maximum of THREE** courses can be taken from one department.
- e. An IS requirement can also be used to satisfy designated ES courses (however an ES cannot fulfill two ES requirements).
- f. Courses selected to fulfill the IS requirements must be selected from the approved list on page 23.
- g. Integrative studies courses may NOT be taken on a pass/no pass basis.
- h. Most students will elect to complete IS requirements through Module 1 and 2. Options are also available through Module 5, 6, and 7. Students should plan completion of the IS requirements well in advance to ensure completion of this requirement.

## Module 0. Information, Discovery, & Retrieval

MNGT 198D. Business Computer Applications  
LIBR 110. Introduction to Library Research

Offered as one-credit-hour courses, these hours do not apply to the degree. Students will register and complete these courses independently, in a mini-course format, with times reserved for assignments and examinations. In the case of the computer requirement, students may opt to complete this requirement through an Internet option or test out of the course during the semester.

## Module 1—Essential Studies [ES]

Providing students with an understanding of the breadth of human endeavor, the Essential Studies requirements for Module 1 include the following Areas (all which must be taken for a grade):

### AREA A. Communication (1 course)

ENGL 150. English Composition (or 151)  
(3 cr)

### AREA B. Mathematics & Statistics (1 course)

MATH 104. Calculus for Managerial & Social Sciences (3 cr); or MATH 106 Analytical Geometry & Calculus (5 cr)

### AREA C. Human Behavior, Culture, and Social Organizations (2 courses)

### AREA D. Science and Technology (1 course)

### AREA E. Historical Studies (1 course)

### AREA F. The Humanities (1 course)

### AREA G. The Arts (1 course)

### AREA H. Race, Ethnicity & Gender (1 course)

Specific course requirements are listed for Area A and Area B, as noted above. Course options for Areas C, D, E, F, G, and H, may be selected from the approved "Essential Studies Program List" on page 14, with the exception that **NO BUSINESS COURSES** may be selected to fulfill an Essential Studies requirement. While a single ES course may encompass more than a single area of knowledge, it cannot simultaneously fulfill an Essential Studies requirement for two Areas.

A **minimum of NINE** courses (for a grade) must be completed (this generally accounts for approximately 27 hours of credit); and a **minimum of 9 hours** for Module 1 and 2 must be completed at the 300 and/or 400 level.

Actuarial science majors must take MATH 106 for Area B and CSCE 155 for Area D. Agribusiness majors must take BIOS 101 and 101L.

## Module 2—Additional Essential Studies [ES]

To ensure students receive a substantial learning experience that encompasses a broad perspective of general education, additional Essential Studies courses are required for business administration students, as noted below:

### Area A. Communications (2 courses)

CURR 120. Basic Business Communications (3 credits)  
COMM 311. Business Professional Communications (3 credits)

### Area B or D. Mathematics & Statistics OR Science & Technology (1 course)

### Area C or E or F or G or H. (4 courses)

Specific course requirements are listed for Area A (which must be completed with a grade) and, as noted above, course options for the other Area requirements may be selected from the approved "Essential Studies Program List" on page 14, with the exception that **NO BUSINESS COURSES** may be selected to fulfill an Essential Studies requirement. While a single ES course may encompass more than a single area of knowledge, it cannot simultaneously fulfill an Essential Studies requirement for two Areas.

A minimum of **FIVE** courses (for a grade) must be completed (this generally accounts for approximately 15 hours of credit); and a **minimum of 9 hours** for Module 1 and 2 must be completed at the 300 and/or 400 level. Area B **may not** be completed with course work considered equivalent to ECON 215.

Actuarial science majors must take MATH 208 for Area B. In addition, for the four-course requirement of Area C or D or E or F or G or H, actuarial science majors must complete this requirement by taking 3 hours of Area F or G; 3 hours of C or E or H, and then MATH 208 will be substituted, along with the extra hours from MATH 107 to fulfill the remaining hours required for this section.

The number of hours for Module 1 and 2 will total 48 to 50 hours of credit. Students completing these requirements with fewer hours, will need to make up hours through completion of additional classes. Students with more than the minimum number of hours (48-50) will transfer additional hours to Module 7.

## Module 3—Business Administration Foundation (15 hours)

All foundation courses in Module 3 must be completed or enrolled in to be eligible to enroll in 300- and/or 400-level business and economics courses.

The 200-level courses require sophomore status (completion of 27 hours of credit) and a minimum 2.5 cumulative grade point average.

All courses in Module 3 must be completed with a grade (no P/N), and enrollment in ACCT 202 requires a grade of C in ACCT 201 and a grade of C is required in ACCT 202 for those continuing in additional accounting courses. ECON 215 requires MNGT 198D and MATH 104 (or 106) as specific course prerequisites.

Hours

ACCT 201 and 202 Principles .....	6
ECON 211 and 212 Principles .....	6
ECON 215 Statistics .....	3

## Module 4—Business Administration Core (21 hours)

In addition to junior standing, students must have completed Module 0; Module 1, Area A and B; Module 2, Area A; and Module 3 to enroll in these courses. In addition, a 2.5 cumulative grade point average is required to register and enroll in these courses, as are specific course prerequisites. Refer to the course descriptions for a listing of these prerequisites. No courses can be taken on a P/N basis.

Hours

BLAW 371 or 372 Business Law <sup>1</sup> .....	3
FINA 361 Finance .....	3
MNGT 331 Operations & Resource Mgmt.....	3
MNGT/MIST 350 Intro to Mgmt Information Systems <sup>2</sup> .....	3
MNGT 360 Managing Behavior in Organizations ..	3
MNGT 475 Business Policies [IS] <sup>3</sup> .....	3
MRKT 341 Marketing.....	3

## Module 5—Major/Emphasis

Students may pursue an emphasis in accounting or a major in 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. Students will need to refer to the specific departmental section for a listing of requirements and hours.

As has been noted in the other Modules, registration and enrollment in courses required for the specific major requires a 2.5 cumulative grade point average, completion of Module 0; Module 1, Areas A and B; Module 2, Area A; and Module 3; as well as any specific course prerequisites. In addition, all course work must be taken for a grade.

## Module 6—Business Electives (6 hours minimum)

Module 6 allows students the flexibility to consider double majors or the opportunity to select other business course work to compliment the major.

A minimum of **6 hours** of business course work is required for Module 6.

1. Accounting emphasis students must take BLAW 372 to satisfy the business law requirement.

2. Marketing and agribusiness majors may substitute MRKT 350 for this requirement.

3. Business Policies is to be taken during the final semester or any time during the senior year when all prerequisites have been completed.

At this point in the program, (beyond the minimum hours required), Module 6 and 7 course work is taken to complete remaining degree requirements that have not yet been satisfied through Modules 0-5 (such as the ICR, any remaining IS requirements, and credit hours to total 128 hours). Students should recheck requirements and hours to determine the number of hours necessary in Module 6 and 7.

### Module 7-Non-Business Electives (7 hours minimum)

A maximum of 9 hours pass/no pass and 16 hours military science, naval science or aerospace studies may apply toward Module 7 non-business electives.

A minimum of **7 hours** of non-business course work must be completed to meet accreditation standards that 50% of the course work required for the degree is completed in classes outside the College.

At this point in the program (beyond the minimum hours required), Module 6 and 7 course work is taken to complete remaining degree requirements that have not yet been satisfied through Modules 0-5 (such as the ICR, any remaining IS requirements, and credit hours to total 128 hours). Students should recheck requirements and hours to determine the number of hours necessary in Module 6 and 7.

### International Course Requirement

The international course requirement is to broaden the student's international perspective. Each student must include one course which emphasizes an international perspective in his/her program. The course chosen, which must be taken for a grade, may be classified as fulfilling either a requirement in Modules 1, 2, 5, 6 or 7 depending on which course is selected by the student. The course, however, must be chosen from the following approved list of International Course Requirement (ICR) courses.

ACCT 429<sup>4</sup>  
AECN 420  
ANTH 479  
ECON 321, 322, 323, 388, 421, 422, 423, 440, 466, 467, 487  
FINA 429<sup>4</sup>, 450  
FREN 307  
GEOG 448, 449  
GERM 307  
HIST 330, 479  
MNGT 428 (*previously 439*), 429<sup>4</sup>  
MRKT 429<sup>4</sup>, 453  
MODL 198, 298 (*for Senshu program only*)  
POLS 160, 459, 466, 467, 471  
SOCI 466, 480  
SPAN 307

### Course Sequence Example

#### First Year

ENGL 150 or 151  
LIBR 110<sup>5</sup>  
MATH 104 (or 106)  
MNGT 198D<sup>5</sup>  
CURR 120  
Essential Studies and/or Electives

**Total: 30-36**

#### Second Year

ACCT 201 and 202  
COMM 311  
ECON 211 and 212  
ECON 215  
Essential Studies and/or Electives

**Total: 30-36**

#### Third Year

BLAW 371 or 372<sup>1</sup>  
FINA 361  
MNGT 331, 350, and 360  
MRKT 341  
Major Requirements  
Essential Studies and/or Electives

**Total: 30-36**

#### Fourth Year

Major Requirements  
Essential Studies and/or Electives  
MNGT 475 Business Policies<sup>3</sup>

**Total: 30-36**

**minimum number of hours in accounting to take the CPA. 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<sup>6</sup> are the same for both the four-year and five-year program. They include:

	<b>Hours</b>
ACCT 308 Managerial Accounting .....	3
ACCT 309 Accounting Systems .....	3
ACCT 313 Intermediate Accounting .....	3
ACCT 314 Intermediate Accounting .....	3
BLAW 372 Business Law I <sup>1</sup> .....	3
	<b>Total 15</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 (128 hours), students will complete the general college requirements and a minimum 24 hours (which includes completion of BLAW 372 for Module 4) of accounting required for an emphasis, plus any chosen electives. This leads to the bachelor of science degree in business administration with an emphasis in accounting. These hours consist of those courses listed above (15 hours), as well as the following courses (9 hours) which are to be completed during the fourth year<sup>7</sup> of the program:

	<b>Hours</b>
ACCT 410 Auditing .....	3
ACCT 412 Federal Tax Accounting .....	3
Advanced accounting elective <sup>8</sup> .....	3
	<b>Total 9</b>

## Programs and Departments

### Accounting Emphasis

#### Accounting and Business Law

**Director: Professor Thomas Balke**

**Professors:** Balke, Brown, Chen, Goebel, Stara

**Associate Professors:** Allen, Lawrence, Ruchala, Shoemaker

**Assistant Professor:** Burton

The School of Accountancy at the University of Nebraska-Lincoln has a mission of providing quality teaching, research, and service to the citizens of Nebraska and the business community it serves. Our goals are to: 1) help students develop the skills necessary to become successful accounting and business professionals; 2) conduct meaningful, scholarly research in accounting; and 3) provide useful service to the University and business community.

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 emphasis may elect to pursue the four- or five-year program. Since the expected sequence of accounting courses for either program depends on individual career goals, students are strongly advised to consult with their adviser prior to enrolling in courses.

**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**

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  
ACCT 413. Federal Tax Accounting  
ACCT 430. Advanced Auditing

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 prior to their fourth year of the bachelors program. This process requires submission of a graduate application, three letters of recommendation, two official transcripts, and results of the Graduate Management Admissions Test.

A fifth year of course work is also necessary for students intending to pursue a career as a certified public accountant. Students should consult directly with the School of Accountancy 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,

Students granted permission to enter the five-year program will complete 156 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,

4. This course is available for students on the Senshu Exchange Program. Refer to the specific major regarding restrictions to take this course.

5. These two one-hour courses are required for the degree, however, the credit does not count toward the 128-hour degree requirement.

6. No accounting courses are completed during the first year without permission from the Director of the School of Accountancy. 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.

7. ACCT 410 and 412 should be completed the first semester followed by the advanced accounting elective.

8. The advanced accounting elective is to be selected from ACCT 404, 408, 413, and 430.

309, 313, 314, and BLAW 372). During the fourth year<sup>9</sup> of the MPA program, students will take the following courses:

Hours
ACCT 404/804 Advanced Accounting .....
3
ACCT 408/808 Advanced Managerial Accounting ..
3
ACCT 410/810 Auditing.....
3
ACCT 412/812 Federal Tax Accounting .....
3
<b>Total 12</b>

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 156 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.

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 an emphasis 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).

## Courses of Instruction

For a College of Business Administration student, the prerequisites for any course at the 200 level are sophomore standing and a minimum 2.5 cumulative grade point average. At the 300 or 400 level the prerequisites are: a minimum 2.5 cumulative grade point average; completion of any specific course prerequisites; as well as completion of the following: Module 0; Module 1: Area A and B; Module 2: Area A; and Module 3.

Students from other colleges may take courses in the School of Accountancy provided they have a minimum 2.0 cumulative grade point average (unless noted otherwise in the prerequisite), have **completed** the specific prerequisite courses, and have the appropriate background for the course as determined by the instructor.

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 399 and 411, which count only as business electives (Module 6) in the program. 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 only to graduate students.

### Accounting (ACCT)

**201 [201x]. Introductory Accounting I** (3 cr ea) Prereq: Sophomore standing or above.

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.

**202 [202x]. Introductory Accounting II** (3 cr ea) Prereq: ACCT 201 with grade of "C" or better. 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 [308x]. 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; MNCT/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 [313x]. Intermediate Accounting** (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** (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.

**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 chair 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.

**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 or parallel: ACCT 314 with grade of C or better, or permission.

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 I** (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.

**[IS] 413/813. Federal Tax Accounting II** (3 cr) Prereq:

ACCT 412/812 with a grade of C or better, or permission. Continuation of federal and state income tax fundamentals with emphasis on the tax laws as they pertain to partnerships, corporations, and fiduciaries. Taxation of decedents' estates and lifetime gifts included to bring out the need for estate planning.

**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.* 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.

**430/830. Advanced Auditing** (3 cr) Prereq: ACCT 410/810 with a grade of C or better or permission.

Internal and compliance auditing; auditor's ethics and liability; EDP auditing; audit sampling; special report writing; audit standards for state and local governmental entities and government agencies; review and discussion of selected audit cases; international auditing.

**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)

**814. Governmental and Not-for-Profit Accounting** (3 cr) Prereq: ACCT 314.

**815. Tax Research and Planning** (3 cr) Prereq: ACCT 412.

**816. Special Topics in Federal Taxation** (3 cr) Prereq: ACCT 412.

**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.

**820. Accounting Policy** (2-3 cr) Prereq: ACCT 410 with grade of C or better, or permission.

**831. Seminar in Auditing** (3 cr) Prereq: ACCT 810.

**\*837. Taxation—Individual Income** (LAW 637/637G) (3 cr) For course description, see LAW 637/637G.

9. Students must register for three of these four classes for graduate credit.

**\*838. Taxation-Corporate** (LAW 638) (3 cr) Prereq: LAW 637 or ACCT 412/812.

**840. Fraud Prevention and Detection** (3 cr) Prereq: Permission.

**\*848. Business Planning** (LAW 648) (3 cr) Prereq: LAW 638 or ACCT 413/813.

**857. Controllership** (3 cr each) Prereq: ACCT 808 or CRBA 910 or permission.

**858. Seminar in Managerial Accounting** (3 cr) Prereq: Permission.

**\*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) A 2.5 cumulative grade point average required.

Examination of law as it relates to the business transaction. Torts, contracts, sales, and related topics in the political and economics environment in which business functions—consideration of social and ethical issues creating pressure for change.

**372. Business Law I** (3 cr) Prereq: ACCT 313 with a grade of C or better, or permission. A 2.5 cumulative grade point average required.

Examination of basic legal principles to allow recognition of relevant issues and the legal implications of business situations. Application of the principles of law to accounting and auditing. Political, social, and ethical implications considered.

Specific study of property and contracts.

**473/873. Business Law II** (3 cr) Prereq: BLAW 372 with grade of C or better, or permission.

Examination of basic legal principles to allow recognition of relevant issues and the legal implications of business situations. Applications of the principles of law to accounting and auditing. Political, social and ethical implications considered. Specific study of bailments, uniform commercial code, labor relations, agency, business entities, ethics and fiduciary relationships.

## Actuarial Science Major

**Director: Professor Colin Ramsay**

**Professor:** Ramsay

**Assistant Professor:** Mashayekhi

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:

**Module 1:** As part of the Essential Studies requirement, actuarial science majors must take **MATH 106** for the Area B requirement and **CSCE 155** for Area D.

**Module 2:** For the Additional Essential Studies requirement, actuarial science majors must take **MATH 107** for the Area B or D requirement. In addition, for the Area C or E or F or G or H requirement, majors must complete **MATH 208**, and must take 3 hours from Area F or G and 3 hours from Area C or E or H. The remaining 3 hours required for this Module will be fulfilled with the extra hours from **MATH 208** and from **MATH 107**.

**Module 3:** Actuarial science majors may "elect" to take **ACCT 306** (4 hrs) for **ACCT 201** and **202** and **ECON 210** (5 hrs) for **ECON 211** and **212**. In addition, majors MUST take **STAT 380** in place of **ECON 215**.

**Module 4:** Majors must take **FINA 461** (3 hrs) in place of **FINA 361**.

**Module 5:** The current requirements for the major consists of 39 hours and the following course work; however, students should continue to consult with the department for an updated listing of hours and course requirements.

ACTS 425. Survival Models  
 ACTS 430. Actuarial Forecasting Techniques  
 ACTS 440. Actuarial Theory of Interest  
 ACTS 450. Stochastic Processes for Actuaries  
 ACTS 470. Life Contingencies I  
 ACTS 471. Life Contingencies II  
 ACTS 473. Intro to Risk & Credibility Theory  
 ECON 311. Intermediate Macroeconomics  
 ECON 312. Intermediate Microeconomics  
 FINA 307. Principles of Insurance  
 FINA 363. Investment Principles  
 FINA 407. Property & Liability Insurance  
 FINA 412. Life Insurance

**Module 6:** Actuarial science may or may not need hours to satisfy Module 6. A minimum of 128 hours is required for the degree and any additional hour requirements (depending on total hours completed for the other modules), can be taken in this Module.

**Module 7:** Actuarial science majors must take **STAT 482** and **STAT 483**. The additional hour of credit (to meet the minimum of 7 hours) is necessary if the minimum 128 hour requirement has not been satisfied.

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 emphasis in actuarial science is an excellent educational background for prospective actuaries. For further information, the student should see the director of the actuarial science program, and/or the Dean's Office for Undergraduate Programs.

## Courses of Instruction (ACTS)

For a College of Business Administration student, the prerequisites for any course at the 200 level are sophomore standing and a minimum 2.5 cumulative grade point average. At the 300 or 400 level the prerequisites are: a minimum 2.5 cumulative grade point average; completion of any specific course prerequisites; as well as completion of the following: Module 0; Module 1: Area A and B; Module 2: Area A; and Module 3.

Students from other colleges may take courses in actuarial science provided they have a minimum 2.0 cumulative grade point average (unless otherwise noted in the prerequisite), have completed the specific prerequisite courses, and have the appropriate background for the course as determined by the instructor. Permission, as a prerequisite for any course, is intended to mean the approval of the instructor teaching the course.

All 800- and 900-level courses are open only to graduate students.

**399. Independent Study** (1-3 cr) Prereq: Permission.

**401. Society of Actuaries Course I Exam Preparation** (1 cr) Prereq: **MATH 208** and **STAT 482**, both with a grade of "C" or better; or permission.

Applications of calculus and mathematical statistics in risk management and related problems, including problems involving computation of actuarially fair premiums, deductibles, loss severity, loss frequency, and loss sharing. Problems relevant to the *Society of Actuaries (SOA) Course I* exam.

**402. Society of Actuaries Course II Exam Preparation** (1 cr) Prereq: **ECON 211, 212, and 311**; **ACTS 440; FINA 461**; or permission.

Application of utility theory to actuarial pricing. Problems relevant to the *Society of Actuaries (SOA) Course I* exam.

**425/825. Survival Models** (3 cr) Lec. Prereq: **STAT 483/883** with a grade of "C" or better.

Parametric and tabular survival models. Estimation based on observations which may not be complete. Concomitant variables. Use of population data. Applications to groups of impaired lives.

**430/830. Actuarial Forecasting Techniques** (3 cr) Prereq: **STAT 483/883**.

Introduction to model building and forecasting in actuarial science. Simple and multiple regression, instrumental variables, series methods, and applications of these methods in forecasting actuarial variables such as interest rates, inflation rates, and claim frequencies.

**440/840. Theory of Interest** (3 cr) Lec. Prereq or Parallel: **MATH 208** and **ACTS 370**, both with grades of "C" or better. Basic measures of interest, annuities-certain, amortization schedules, sinking funds, bonds, and installment loans.

**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) Prereq: **STAT 483/883** or permission.

Introduction to stochastic processes and their applications in actuarial science. Topics: discrete-time and continuous-time processes, Markov chains, the Poisson process, compound Poisson processes, non-homogeneous Poisson processes, arithmetic and geometric Brownian motions, and applications of these processes in computation of resident fees for continuing care retirement communities, and pricing of financial instruments.

**470/870. Life Contingencies I** (3 cr) Prereq: **ACTS 440/840** and **STAT 482/882**, both with a grade of "C" or better. First course of the sequence of two on the theory and applications of contingency mathematics in the areas of life and health insurance, annuities, and pensions. Probabilistic models emphasized including net.

**471/871. Life Contingencies II** (3 cr) Prereq: **ACTS 470/870** and **STAT 482/882** both with grades of "C" or better. 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 and Credibility Theory** (3 cr) Prereq: **STAT 483/883** or permission.

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, limited fluctuation credibility, Bayesian credibility and Bühlmann-Straub credibility and simulation.

**475/875. Actuarial Pricing in Practice** (3 cr) Prereq: ACTS 471/871, FINA 412/812. Principles and practices of determining premium rates, reserves and dividends for life and health insurance and annuities. Statutory commercially available actuarial pricing software used for illustration.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Agribusiness Major

**Director: Professor Linda Price**

Agribusiness majors will make one modification to their Module 1, Essential Studies requirements. Area D must be satisfied with completion of BIOS 101, which is required for the program.

The requirements of the major, in addition to the general college requirements and courses listed above, consists of 31 hours of credit and includes the following courses:

AECN 201. Production Economics & Farm Management

AECN 316. Agricultural Business Management

MRKT 211. Principles of Agricultural Marketing or

AECN 212. Introductory Agribusiness Marketing

Students must also complete 6 hours of production, 9 hours of nonproduction course work, and an additional 6 hours of agriculture electives in the College of Agricultural Sciences and Natural Resources. Fifteen of these 21 hours must be completed at the 200 level or above. Selection of course work must be approved by the adviser. Courses and descriptions appear under the individual departmental majors.

Students may also elect to fulfill the Module 4 requirement of MNFT/MIST 350 by taking MRKT 350.

Presently, one in five Americans is employed in agribusiness jobs. Career opportunities exist in:

- 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 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. The program also allows the student to build expertise by taking CASNR courses in their area of interest.

## Business Administration Major

The requirements for the 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
- faculty adviser approval on proposed program of course work

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.

Students who participated in the CBA at Sennsuh University Program may use 6 hours of 429 (offered by the departments of accounting, finance, management, or marketing) or BSAD 491 toward a business administration major. Courses and descriptions appear under the accounting emphasis and individual departmental or program majors of actuarial science, economics, finance, management, and marketing. Students should also consult with the Deans Office for Undergraduate Programs for options to utilize BSAD 491 (noted below) in place of 429, as well as the option to complete an International Emphasis. A maximum of 6 hours of BSAD 491 may be used toward the major.

## Courses of Instruction (BSAD)

**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 payment 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 Major

**Chair: Professor James Schmidt**

**Professors:** Anderson, Edwards, Hayden, Lamphear, MacPhee, Petr, Riefler, Rosenbaum, Walstad

**Associate Professors:** Cushing, Fuess, Kim, May, McGarvey, van den Berg

**Assistant Professors:** Allgood, Klaus

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. These 21 hours must include:

Hours
ECON 311 Intermediate Macroeconomics <sup>10</sup> ..... 3
ECON 312 Intermediate Microeconomics <sup>10</sup> ..... 3
Economics 300- or 400-level course <sup>10</sup> ..... 6
Economics 400-level courses <sup>10</sup> ..... 9
<i>Faculty approval on proposed program of course work.</i>
<b>Total 21</b>

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.

In planning a program of studies, students must consult a faculty adviser and obtain approval prior to enrolling in courses for the major.

## Courses of Instruction (ECON)

For a College of Business Administration student, the prerequisites for any course at the 200 level are sophomore standing and a minimum 2.5 cumulative grade point average. At the 300 or 400 level the prerequisites are: a minimum 2.5 cumulative grade point average;

10. Completion of ECON 311 and 312 is recommended before taking other 300- and 400-level courses. You are required to consult and obtain approval from your faculty adviser on your choices of 300- and 400-level courses for the major.

completion of any specific course prerequisites; as well as completion of the following: Module 0; Module 1: Area A & B; Module 2: Area A; and Module 3.

Students from other colleges may take courses in the Department of Economics provided they have a minimum 2.0 cumulative grade point average (unless otherwise noted in the prerequisite), have **completed** the specific prerequisite courses, and have appropriate background for the course as determined by the instructor. Permission, as a prerequisite for any course, is intended to mean the approval of the instructor teaching the course.

No economics course may be taken pass/no pass (regardless of the student's college) without special permission of the instructor and departmental chair. If permitted, however, the course may only be used as a business elective (Module 6) in the program.

All 800- and 900-level courses are open only to graduate students.

## 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.

**[ES] 211 [211x]. 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 are evaluated.

**[ES] 212 [212x]. 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** (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. Microeconomic 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. 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** (AECN 467/867; ANTH, HIST 479/879; ECON 467/867; 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** (AECN 467/867; ANTH, HIST 479/879; ECON 466/866; POLS 467/867; 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.

**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 both 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.

Refer to the Graduate Bulletin for 900-level courses.

Also see courses in Quantitative Economics.

## Economic Education

**450/850 [450f/850f]. 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] 357. Women and Work in the US Economy** (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. Special attention to the 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. US Economic History** (HIST 457/857) (3 cr) Prereq: ECON 211 and 212 or ECON 210.

Transformation of the US economy from an agrarian to an industrial society and the impact of that transformation on people's lives and livelihoods. Focuses on the late eighteenth and nineteenth centuries. Attention to the economics of slavery, the impact of the railroads, immigration, and the collective response of business and labor to industrialization.

**[IS] 458/858. US Economic History** (HIST 458/858) (3 cr) Prereq: ECON 211 and 212 or ECON 210.

Transformation of the US 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. Attention to defining the limits of allowable competition, and to replacing free market forces with regulation. Analysis of utilities and their evolving regulation.

### 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

### 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.

Refer to the Graduate Bulletin for 900-level courses.

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, 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.

Refer to the Graduate Bulletin for 900-level courses.

## 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.

Refer to the Graduate Bulletin for 900-level courses.

## Quantitative Economics

[ES] 215 [215x]. Statistics (3 cr) Prereq: MATH 104 or 106; successful completion of MNGT 198D. Credit towards the degree in the College of Business Administration may be earned in only one of BIOM 201 or CRIM 300 or ECON 215 or EDPS 459/859 or SOCI 206 or STAT 180. Credit towards the degree in the College of Arts and Sciences cannot be earned in both ECON 215 and STAT 180, or in both STAT 180 and EDPS 459/859. 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 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 418/818.

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: Admission to the University Honors Program or by invitation. A University Honors Seminar 189H is required of all students in the University Honors Program.

Topics vary.

### 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, and permission.

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 Major

### Banking, Finance, Investments, and Real Estate

#### Chair: Professor Manferd O. Peterson

Professors: Karel, McCabe, Peterson, Rejda, Zorn

Associate Professors: DeFusco, Geppert

Assistant Professors: Farrell, Dudney

The requirements for the major, in addition to the general College requirements, includes 21 hours of credit, and **one** of the following courses:

ACCT 308. Managerial Accounting or ACCT 313. Intermediate Accounting or ECON 311. Intermediate Macroeconomics or ECON 312. Intermediate Microeconomics

In addition, students must complete the following 12 hours of course work:

FINA 307. Principles of Insurance FINA 363. Investment Principles FINA 365. Financial Institutions & Markets FINA 461. Advanced Finance

Also, the student must take two of the following courses:

- FINA 382. Real Estate Principles & Practice  
 FINA 401. Quantitative Financial Analysis  
 FINA 407. Property & Liability Insurance  
 FINA 412. Life Insurance  
 FINA 429.<sup>11</sup> Undergraduate Seminar in Japanese Business  
 FINA 450. International Financial Management  
 FINA 463. Security Analysis  
 FINA 465. Bank Management  
 FINA 482. Real Estate Finance

Through the major in finance it is possible to pursue the following areas of study: business or corporate finance, bank management, 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. As the role of finance increases in our economy, an understanding of the finance function is becoming ever more essential in the management of public as well as private organizations.

Bank management and real estate courses are particularly designed for the student in business administration who wishes to prepare for a career in one or both of these fields. International finance concentrates on the international aspects of corporate finance and financial institutions. Interested students should consult their advisers or the department chair when selecting courses to meet their needs.

The study of investments is important for all students who wish to gain an understanding of the risks and rewards found in the securities markets. For the person outside the College of Business Administration, this area is of benefit as a course in personal investments. For the business administration student, the investments area, combined with electives, offers college preparation for positions in the securities industry and in the investment and trust departments of financial institutions.

The study of insurance will help to prepare a student for positions in the insurance field, an important Nebraska industry.

## Courses of Instruction (FINA)

For a College of Business Administration student, the prerequisites for any course at the 200 level are sophomore standing and a minimum 2.5 cumulative grade point average. At the 300 or 400 level the prerequisites are: a minimum 2.5 cumulative grade point average; completion of any specific course prerequisites; as well as completion of the following: Module 0; Module 1: Area A & B; Module 2: Area A; and Module 3.

Students from other colleges may take courses in the Department of Finance provided they have a minimum 2.0 cumulative grade point average (unless noted otherwise in the prerequisite) and they have **completed** the specific prerequisite courses and have the appropriate background for the course as determined by the instructor. Permission, as a prerequisite for any course, is intended to mean the approval of the instructor teaching the course.

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 business elective (Module 6) in the program.

All 800- and 900-level courses are open only to graduate students.

### 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 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 Insurance (3 cr) Prereq: ECON 210 or 211.

Fundamentals of risk management and insurance including 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 with emphasis on personal lines of insurance.

### 361 [361x]. Finance (3 cr) Prereq: ECON 210 or 211, ACCT 201. A 2.5 cumulative grade point average required.

Scope and content of the finance specialization; survey of the major theoretical issues; study of the financial instruments; analysis of the capital management problems; and development of criteria for financial decision making.

### 361H. Honors: Finance (3 cr) Prereq: Good standing in the University Honors Program or by invitation; ECON 210 or 211, ACCT 201.

Scope and content of the finance specialization; survey of the major theoretical issues; study of 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 or 360.

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 [382x]. 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.

### 399. Independent Study (1-3 cr) Prereq: Permission of instructor who will supervise the work. Open to juniors and seniors concentrating in finance.

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; 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.

### 407/807. Property and Liability Insurance (3 cr) Prereq: FINA 307.

Analysis of risk, types of risks, and the economic functions of property and liability insurance. Traditional and modern theories of risk, property and liability coverage, functional insurance areas, personal and commercial lines of insurance, and current public policy problems.

### 412/812. Life Insurance (3 cr) Prereq: FINA 307.

Analysis of 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. Review of life insurance pricing, functional company operations, legal aspects, and contractual provision. Health and other specialized forms of human-life value insurance.

### 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 academics, business people, and civil servants.

### 438/838. Risk Management (3 cr) Prereq: ECON 307, 407, and FINA 361, or permission.

Identifies and analyzes major and minor pure loss exposures facing business firms, examines the alternative risk management techniques for dealing with these exposure, selects the most appropriate technique(s) for controlling each exposure, and monitors the financial results so that 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 studied.

### [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.

### 482/882 [482x]. 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 911 or permission.

### 855. Capital Markets and Financial Institutions (3 cr) Prereq: FINA 365 and graduate standing, or permission.

### 863. Portfolio Management Prereq: GRBA 911 or permission.

\*867. Options, Futures and Derivative Securities (3 cr)  
Prereq: FINA \*863 or equivalent. Open to masters and PhD students only.

#### 899. Masters Thesis (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## International Business Major

**Adviser: Associate Professor Richard A. DeFusco**

Students in international business study the business practices of other nations and learn how international trade laws affect the world economy. A background in international business will help students become a better member of the management team of any corporation. From banks to manufacturing firms, an increasing number of industries need professionals who understand the world's business environment. Import and export firms, agricultural commodities firms, and government and non-government agencies may specifically seek international expertise. Students are encouraged to consult with advisers in the Dean's Office for Undergraduate Programs for the selection of appropriate courses to meet the requirements for the major.

The requirements for the international business major, in addition to the general college requirements consist of four components:

- 12 hours of approved culture course work related to students language/area of interest (Modules 1 or 2 or 7)
- 15 hours of approved international business course work (Module 5)
- 6 hours of upper-level language (from one language) to include one complete sequence (1 year) (Module 5)
- study abroad component with a minimum of 3 hours of credit earned (Module 1, 2, 3, 4, 5, 6, or 7)

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.

The requirements for the major include successful completion of the following, all with graded courses (no P/N).

### Module 1, 2, or 7—Culture Course Work

International business majors must select a minimum of 12 hours of international-related course work, according to the area of interest they wish to study. These may NOT be language-based classes, and must be selected from the approved list of courses as follows:

#### Module 1 or 2

The courses listed below will fulfill an international business culture course requirement as well as an Essential Studies requirement. Refer

to the "Essential Studies Program List" on page 14 to determine which Area of Module 1 or 2 each course will fulfill.

AECN 346  
AGRI 292  
AHIS 101, 102, 216, 221, 226, 231, 256, or 341  
ANTH 261, 353, 362, or 366  
BRDC 465  
CLAS 206G, 233, or 308  
CURR 330  
ENGL 230, 231, 234A, 234B, 245D, or 342A  
FREN 282 or 283  
GEOG 120, 242, 272, 372, 374, 375, or 378  
GERM 282 or 283  
HIST 100, 101, 150, 171, 181, 211, 212, 221, 223, 231, 232, 261, 262, 271, 272, 282, 308, 357, 370, 371, 372, 381, 382, 383, 384, or 485  
MODL 234D  
PHIL 231, 232, or 341  
POLS 104, 108, 160, 171, 260, 261, 271, 272, 273, 274, 277, 371, or 373  
PSYC 261  
SOCI 217, 218, or 261  
THEA 335, 336, or 440

### Module 7

The courses outlined below will fulfill an international business culture course requirement but do not fulfill any Essential Studies requirements. Therefore, these courses can only be used in Module 7, non-business electives.

AECN 411 or 420  
AGRI 310  
AHIS 318, 346, 398, 411, 418, 456, 457, or 490  
ANTH 350, 365, 396, 412, 438, 472, 474, 479, 496, or 498  
ARCH 450  
CLAS 387 or 398  
ENGL 210, 349, or 497  
EURO 450  
GEOG 398, 399, 498, 431, 447, 448, or 449  
HHPT 205  
HIST 298, 301, 321, 322, 323, 324, 325, 327, 328, 330, 336, 337, 338, 347, 348, 361, 362, 396, 397, 414, 415, 420, 422, 423, 424, 426, 429, 431, 432, 433, 434, 435, 461, 462, 471, 473, 475, 479, or 480  
MODL 198 or 298  
MUNM 350  
MUSC 398  
PHIL 460 or 471  
POLS 360, 376, 398, 399, 450, 451, 459, 462, 463, 464, 465, 466, 468, 469, 470, 471, 483 or 484  
SOCI 455, 466, 480, or 481  
SPAN 282-283

### Module 5—International Business Major:

In addition to the culture courses, a **minimum** of 15 hours of international-related business course work must be taken (of which any may be used to satisfy the ICR), of which 9 hours must be at the 400 level. These courses **must** be selected from the following list of approved courses with a **minimum** of **three** departments represented:

BSAD 491<sup>12</sup>  
ECON 321, 322, 323, 388, 421, 422, 423, 440, 466, 467, 478, or 487  
FINA 429<sup>4</sup> or 450  
MNGT 428 (previously 439) or 429<sup>4</sup>  
MRKT 429<sup>4</sup> or 453

### Module 5—Language

In addition to the 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 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 three options to satisfy this requirement.

**Option 1:** A **minimum** of 6 hours in CHIN 201 and 202.

**Option 2:** 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, Italian, 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.

**Option 3:** 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.

### Module 1-7—Study Abroad Requirement

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 you are in college and requires a minimum of 3 hours of UNL sponsored or approved study abroad credit.

You are encouraged to begin thinking about your plans to study abroad during your freshman year by visiting with your faculty adviser, the advising office staff, and representatives of International Affairs, 420 University Terrace. It is suggested that you begin your language and culture courses your freshman year as well. Your upper-level course work and study abroad experience should be done sometime in the junior or senior year. The Advising Office will work with you to outline how your study abroad courses will fulfill requirements for your program.

### International Business Emphasis

Students pursuing an emphasis in accounting or a major in one of the other business disciplines (with the exception of international business) may wish to consider including an international business emphasis in their program. The requirements generally parallel those of the international business major, but consist of fewer required credit hours in each category.

In general, the international business emphasis includes 18 hours from the following:

- 9 hours of international, non-business course work from the approved international list, with a minimum of **TWO** departments represented; and, if so selected, no more than 6 hours of modern language (from the approved list of courses).

- 9 hours of international business course work from the approved international business list, with a minimum of TWO departments represented.

## Management Major

### Organization and Management, Organizational Behavior, Human Resource Management, Strategy and Planning, Production and Operations, Management Science, Entrepreneurship, and Information Systems Management

**Chair:** Professor Sang M. Lee

**Professors:** Digman, S. Lee, Luthans, Schwendiman, Schniederjans

**Associate Professors:** May, Sebora, Sommer, Swenseth, Thorp

**Assistant Professors:** Jones, Z. Lee, Nah, Siau

The requirements for the major, in addition to the general College requirements, consists of 21 hours and includes the following course:

MNGT/MIST 250. Business Programming

In addition, the student must select a minimum of 18 hours of course work from the following:

- MNGT 245. Elementary Quantitative Methods
- MNGT 320. Principles of Management
- MNGT/ENTR 321. Business Plan Development
- MNGT 361. Personnel/Human Resource Management
- 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>13</sup>
- MNGT 431. Operations 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 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

Students who wish to emphasize human resources management are encouraged to choose their six management elective (Module 5) courses for the major 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 Module 6 and 7 elective courses 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 445. Industrial/Organizational Psychology
- PSYC 462. Motivation & Emotion
- PSYC 483. Psychology of Social Behavior

Students who wish to emphasize entrepreneurship are encouraged to choose their six management elective (Module 5) courses for the major 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. Operations Management Systems
- MNGT 437. Computer-aided Analysis in Decision Making
- MNGT 467. Leadership in Organizations

The following courses should be considered when selecting Module 6 elective courses 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
- MRKT 346. Marketing Channels Management
- MRKT 425. Retailing Management
- MRKT 444. Logistics
- MRKT 453. International Marketing

Students who wish to emphasize management information systems and operations management are encouraged to choose their six management elective (Module 5) courses for the major from the following list:

- MNGT 431. Operations 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 462. Labor Relations
- MNGT 463. Compensation Administration
- MNGT 464. Human Resource Planning

The following courses should be considered when selecting Module 6 and 7 elective courses 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

Students who wish to emphasize strategic management are encouraged to choose their six management elective (Module 5) courses for the major 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. Operations Management Systems
- MNGT/MIST 454. Information Systems Analysis & Design
- MNGT 464. Human Resource Planning
- MNGT 465. Organization Theory & Behavior
- MNGT 467. Leadership in Organizations

The following courses should be considered when selecting Module 6 and 7 elective courses 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 Insurance
- GEOG 443. Industrial Location
- 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

13. Three hours of MNGT 429 may be used for the student majoring in management. The other 3 hours may be used only for free elective credit.

With any of the four plans, courses may only be selected from the approved list. **MNGT 121, 198, 331, 350, 360, 398, 399 (Independent Study), and 475 may not be counted toward the major.**

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 especially 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.

## Courses of Instruction (MNGT)

For a College of Business Administration student, the prerequisites for any course at the 200 level are sophomore standing and a minimum 2.5 cumulative grade point average. At the 300 or 400 level the prerequisites are: a minimum 2.5 cumulative grade point average; completion of any specific course prerequisites; as well as completion of the following: Module 0; Module 1: Area A & B; Module 2: Area A; and Module 3.

Students from other colleges may take courses in the Department of Management provided they have a minimum 2.0 cumulative grade point average (unless otherwise noted in the prerequisite), have **completed** the specific prerequisite courses, and have the appropriate background for the course as determined by the instructor. Permission, as a prerequisite for any course, is intended to mean the approval of the instructor teaching the course.

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 business electives (Module 6) in the program.

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 and **all** prerequisites for the course must be completed prior to enrollment. This rule is **strictly** enforced by the Department of Management. This course is open to CBA students only.

All 800- and 900-level courses are open only to graduate students.

### 121. Introduction to Entrepreneurial Management

(ENTR 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.

[ES][IS] **189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. A *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.

#### D. Business Computer Applications (1 cr)

[ES][IS] **245 [245x]. Elementary Quantitative Methods** (3 cr) Prereq or coreq: Sophomore standing; ECON 215; and successful completion of MNGT 198D.

Introduction to modern quantitative methods used in decision making in business and economics. Includes linear models, simplex method, network and scheduling models, inventory models, decision theory, and computer-aided solution methods.

### 250. Business Programming (MIST 250) (3 cr) Prereq:

MNGT 198D.

Introduces fundamental concepts in computing and programming in business. A language is chosen based on the ease of learning and its acceptance in the business community, e.g., Basic, PASCAL, COBOL, etc.

### 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.

Nature and dynamics of managerial organization, planning, communication processes and control problems, leadership and motivation in complex organizations, and executive development.

### 331 [331x]. Operations and Resources Management (3 cr) Prereq: Junior standing and ECON 215. A 2.5 cumulative grade point average required.

Analytical management techniques for: 1) ascertaining demand for the organization's goods and services; 2) justifying and acquiring the necessary resources; and 3) planning and controlling the transformation of resources into goods and services. Includes application in both large and small organizations, private and public enterprise, and service as well as manufacturing organizations.

### 350. Introduction to Management Information Systems (MIST 350) (3 cr) Prereq: Junior standing, passing score on MNGT 198D or appropriate equivalency for Teacher's College students. A 2.5 cumulative grade point average required.

Views data and information as important resources to be managed in modern organizations. Establishes the role of information systems in organizations and how they relate to organizational objectives and organizational structure. Basic information system concepts are introduced. Through lectures, problems and case studies, an awareness of information flows, uses, relationships and problems is gained. This knowledge enables the student to interact with information specialists, to gain some understanding of management issues related to computerized information systems, and to critically think about information, information systems and business decision making.

### [ES] 360. Managing Behavior in Organizations (3 cr) Prereq: Junior standing. A 2.5 cumulative grade point average required.

Foundation for the study and application of organizational behavior. Perspective, historical background, methodology, and theoretical framework for human behavior in organizations. Attention to 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 stressed.

### [ES][IS] **360H. Honors: Managing Behavior in Organizations** (3 cr) Prereq: Junior standing; good standing in the University Honors Program or invitation.

For selected students, the foundation for the study and application of organizational behavior. Perspective, historical background, methodology, and theoretical framework for human behavior in organizations. Attention to 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 emphasized. Students in this honors section have the opportunity to have in-depth discussions based on readings from additional articles and chapters from a supplementary text.

### [ES] **361 [361x]. 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.

### 398. Special Topics in Management (1-3 cr) Prereq:

Permission of department chair.

Specific topic covered in any given term and credit awarded to be determined by the instructor at that time.

### 399. Independent Study (1-3 cr) Prereq: Junior standing and permission of supervising professor and department chair. P/N only.

Special research project or reading program under the direction of a professor in the department.

### 399H. Honors: Independent Study (3-6 cr) Prereq: Good standing in the University Honors Program or by invitation, permission of instructor and department chair.

Special research project or reading program.

### [IS] **421/821. Entrepreneurship and Venture Management** (ENTR 421/821) (3 cr) Prereq: Senior standing; MNGT 331, 360; MRKT 341; FINA 361; and ACCT 201 and 202, or 306; ENTR 321; or permission.

Investigates through lecture, readings, analyses of plans written by UNL students, and guest speakers, the successful planning, implementation, and launching of new business ventures. Characteristics of entrepreneurs and the importance of building networks.

### 422/822. Small Business Management (ENTR 422/822) (3 cr) Prereq: MNGT 331, 360; MRKT 341; FINA 361; and ACCT 201 and 202 or 306; and senior standing.

Small businesses and owner management. Directed toward understanding the process of creating and managing one's own business, whether new or acquired. Actual involvement in small business organizations (e.g., internships, on-site visits and discussions, and consulting assignments). Cases relevant to small business are used.

### 423/823. Small Business Growth and Development (ENTR 423/823) (3 cr) Prereq: Senior standing; MNGT 331, 360; MRKT 341; FINA 361; and ACCT 201 and 202, or 306.

Financial, human resource, operations and marketing issues that face entrepreneurs whose businesses are confronted with significant growth potential or that have matured. Franchising, public offerings, succession and estate planning.

### [ES][IS] **428/828 [428x]. 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. Stress is given to the 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 [431x/831x]. Operations 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; MNGT 198D; 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; passing score on MNGT 198D; and permission. Selected topics in operations research/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; passing score on MNGT 198D; and permission. Selected topics in operations research/management science. Approaches for the analysis of systems that change probabilistically or incorporate risk and uncertainty, the techniques' analytical underpinning, providing insight into the foundation and structure of the management science approach. Application of the techniques. Decision analysis, game theory, Markovian decision processes, queuing theory, and/or other probabilistic or stochastic topics.

[ES] **452/852. Database Organization and Management** (CSCE, MIST 452/852) (3 cr) Prereq: For CBA and arts and sciences majors: MNGT/MIST 350, CSCE 150 (FORTRAN) and 252A (COBOL), or equivalent, or successful completion of MNGT 198D. College of Engineering and Technology majors: CSCE 150 (FORTRAN) and 252A (COBOL), or equivalent. *MNGT/MIST/CSCE 452/852 is not open to computer science majors who should register for CSCE 413/813 instead.*

Introduces student to technology of the database and related human and managerial considerations. Databases studied from two perspectives: 1) the logical organization, as the manager and applications programmer see and use the organization's data; and 2) the physical organization, as the systems software programmers and database manager view the data. Theory of organization and the practical applications of databases.

[ES] **454/854. Information Systems Analysis and Design** (MIST 454/854) (3 cr) Prereq: Senior standing; MNGT 198D; and MNGT/MIST 350. Second-level course in computer-based information systems. Objectives are to identify decision requirements for managing an organization, analyze design of information gathering and processing systems for decision making, analyze information systems concepts, review approaches for evaluating existing systems, and examine the concept of common databases for all functional modules. Includes the decision-making process: operational tactical and strategic-level systems; system life cycles; basic analysis tools, defining logical system requirements; and determining economic alternative systems.

**456/856. Object-Oriented Systems Development** (MIST 456/846) (3 cr) Prereq: MNGT/MIST 250 or equivalent. Introduces the object-orientation as a new way of developing information systems. Addresses the analysis, design and implementation of systems development from the object-oriented perspective. Includes a discussion of distributing business objects over the local or wide area networks.

[ES] **457/857. Business Data Communications** (MIST 457/857) (3 cr) Introduces the fundamentals of business data communications, including hardware and software. Communication protocols such as TCP/IP, Internet and electronic commerce.

**458/858. Electronic Business** (MIST 458/858) (3 cr) Prereq: Senior standing; MNGT 198 "Business Computer Applications"; MIST/MNGT 350. For course description, see MIST 457/857.

[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: MNGT 360 or ECON 381; junior standing. 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: MNGT 361 and junior standing. 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.

[IS] **467/867. Leadership in Organizations** (3 cr) Prereq: Senior standing; MNGT 360 and COMM 311. 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.

[IS] **475/875 [475x/875x]. Business Policies and Strategies** (3 cr) Prereq: Senior standing; ACCT 202 or 306; ECON 211 and 212; FINA 361; MIST/MNGT 350; MNGT 245, 331, and 360; MRKT 341; or equivalent; and 2.5 cumulative grade point average. *MNGT 475 is open only to CBA Qualified majors in the College of Business Administration.* 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. Complexity of business problems and the interrelationship of business functions.

[IS] **475H. Honors: Business Policies and Strategies** (3 cr) Prereq: Senior standing; good standing in the University Honors Program or by invitation; ACCT 202 or 306; ECON 211 and 212; FINA 361; MIST/MNGT 350; MNGT 245, 331, and 360; MRKT 341; or equivalent. *MNGT 475H is open only to CBA Qualified majors in the College of Business Administration.* 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)

Refer to the Graduate Bulletin for 900-level courses.

## Entrepreneurship (ENTR)

**121. Introduction to Entrepreneurial Management** (MNGT 121) (3 cr) For course description, see MNGT 121.

**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.

[IS] **421/821. Entrepreneurship and Venture Management** (MNGT 421/821) (3 cr) Prereq: Senior standing; MNGT 331, 360; MRKT 341; FINA 361; and ACCT 201 and 202, or 306; ENTR 321; or permission. For course description, see MNGT 421/821.

**422/822. Small Business Management** (MNGT 422/822) (3 cr) Prereq: MNGT 331, 360; MRKT 341; FINA 361; and ACCT 201 and 202 or 306; and senior standing. For course description, see MNGT 422/822.

**423/823. Small Business Growth and Development** (MNGT 423/823) (3 cr) Prereq: Senior standing; MNGT 331, 360; MRKT 341; FINA 361; and ACCT 201 and 202, or 306. For course description, see MNGT 423/823.

## Management Information Systems and Technology (MIST)

**250. Business Programming** (MNGT 250) (3 cr) Prereq: MNGT 198D. For course description, see MNGT 250.

**350. Introduction to Management Information Systems** (MNGT 350) (3 cr) Prereq: Junior standing, passing score on MNGT 198D or appropriate equivalency for Teacher's College students. *A 2.5 cumulative grade point average required.* For course description, see MNGT 350.

[ES] **452/852. Database Organization and Management** (CSCE, MNGT 452/852) (3 cr) Prereq: For CBA and arts and sciences majors: MNGT/MIST 350, CSCE 150 (FORTRAN) and 252A (COBOL), or equivalent, or successful completion of MNGT 198D. College of Engineering and Technology majors: CSCE 150 (FORTRAN) and 252A (COBOL), or equivalent. *MNGT/CSCE 452/852 is not open to computer science majors who should register for CSCE 413/813 instead.* For course description, see MNGT 452/852.

[ES] **454/854. Information Systems Analysis and Design** (MNGT 454/854) (3 cr) Prereq: Senior standing; MNGT 198D; and MNGT/MIST 350. For course description, see MNGT 454/854.

**456/856. Object-Oriented Systems Development** (MNGT 456/856) (3 cr) Prereq: MNGT/MIST 250 or equivalent. For course description, see MNGT 456/856.

[ES] **457/857. Business Data Communications** (MNGT 457/857) (3 cr) For course description, see MNGT 457/857.

**458/858. Electronic Business** (MNGT 458/858) (3 cr) Prereq: Senior standing; MNGT 198 "Business Computer Applications"; 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.

## Marketing Major

### Marketing, Marketing Communication, Distribution Channels, Retailing, Sales Management, Marketing Research, and International Marketing

**Chair: Professor S. L. Grossbart**

**Professors:** Gentry, Grossbart, Mittelstaedt, Price  
**Associate Professors:** Arnould, Ball, Curtis, Hampton, Kennedy, Sohi

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 in Module 4.

The requirements for the major, in addition to the general College requirements, include successful completion of the following courses:

MRKT 345. Market Research  
 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 (*if not selected for above requirement*)  
 MRKT 347. Marketing Communication Strategy (*if not selected for above requirement*)  
 MRKT 350. Marketing Information Systems (*if not selected for Module IV*)  
 MRKT 425. Retailing Management  
 MRKT 428. Sports Marketing  
 MRKT 441. Marketing & Electronic Commerce  
 MRKT 443. Consumer Behavior  
 MRKT 444. Logistics  
 MRKT 446. Quantitative Analysis in Marketing  
 MRKT 449. Marketing Communication Campaigns  
 MRKT 453. International Marketing  
 MRKT 458. Sales Management  
 MRKT 460. Special Topics in Marketing

Note that although only one of MRKT 346 and 347 is required, a student may elect to take both. The marketing curriculum specifies that MRKT 442 be deferred until at least MRKT 341, 345, and either 346 or 347 have been passed. MRKT 399 (Special Project) may not be counted toward 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  
 TXCD 213. Textile & Apparel Industry Processes  
 TXCD 313. Theory & Practices in Merchandising  
 TXCD 407. History of Costume **or** TXCD 405 Advanced Textiles  
 TXCD 410. Socio-Psychological Aspects of Clothing  
 TXCD 413. Textiles & Apparel Merchandising

Marketing students wishing a textiles, clothing and design track of **Merchandising/Design** must take:

TXCD 121. Design Essential  
 TXCD 213. Textile & Apparel Industry Processes  
 TXCD 222. Intermediate Design & Color Theory  
 TXCD 313. Theory & Practices in Merchandising  
 TXCD 314. Visual Merchandising  
 TXCD 413. Textiles & Apparel Merchandising

In total, 18 hours of textiles, clothing and design courses are required in either track.

Marketing students may choose to complete an emphasis in advertising. To meet the requirements for an emphasis in advertising, College of Business marketing majors must take:

JOUR 281. Introduction to Advertising  
 JOUR 283. Promotional Writing  
 JOUR 333. Graphic Communications

Students must also take one of the following courses:

JOUR 250. Intro to Public Relations  
 JOUR 460. Media Strategy  
 JOUR 489. Advertising Campaigns

The field of marketing includes many different career opportunities such as advertising, distribution, marketing research, merchandising, marketing communication, retailing, 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, communication studies, art, and geography may be helpful.

## Courses of Instruction (MRKT)

For a College of Business Administration student, the prerequisites for any course at the 200 level are sophomore standing and a minimum 2.5 cumulative grade point average. At the 300 or 400 level the prerequisites are: a minimum 2.5 cumulative grade point average; completion of any specific course prerequisites; as well as completion of the following: Module 0; Module 1: Area A & B; Module 2: Area A; and Module 3.

Students from other colleges may take courses in the Department of Marketing provided they have a minimum 2.0 cumulative grade point average (unless otherwise noted in the prerequisite), have **completed** the specific prerequisite courses, and have the appropriate background for the course as determined by the instructor. Permission, as a prerequisite for any course, is intended to mean the approval of the instructor teaching the course.

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 requirements for those courses (with the exception of the accounting prerequisite).

No marketing course may be taken pass/no pass, except 399. MRKT 399, which does not count toward the 18 hours of marketing required of marketing majors, 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.

**211. Principles of Agricultural Marketing** (AECN 211) (3 cr I, II) Lec 3. Prereq: AECN 141 or ECON 210 or 212. Marketing principles and functions as applied to agricultural products and distribution channels. Topics: hedging; price theory; marketing channels and strategies; firm management; foreign trade; marketing policy.

[ES] **341 [341x]. Marketing** (3 cr) Prereq: Junior standing; ECON 211, 212, or 210; 2.5 cumulative grade point average required.

Examination of 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. Consideration of 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) Prereq: Good standing in the University Honors Program or by invitation. Examination of 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. Consideration of 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.

**350. Marketing Information Systems: Strategic Use of Information Systems to Achieve Marketing Objectives** (3 cr) Prereq: 6 hrs marketing, and MNGT 198D or equivalent; 2.5 cumulative grade point average required.

Strategic use of information systems to achieve marketing objectives. Marketing systems and decision support systems creation, organization, and maintenance; electronic commerce; customer database software; and database analysis methods and software. Emphasizes the use of marketing information systems to identify market opportunities, develop targets, manage customer relationships, and manage and evaluate promotional efforts.

**399. Special Project** (1-3 cr) Prereq: MRKT 341 and approval of study plan by faculty member. *May be offered on a P/N 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** (3-6 cr) Prereq: Good standing in the University Honors Program or by invitation, permission of instructor and departmental chair. Special research project or reading program.

**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.

**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 of 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.

**441/841. Marketing and Electronic Commerce** (3 cr) Prereq: MNGT/MIST 350 or MRKT 350; or permission. 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) Prereq: MRKT 341, 345, 346 or 347, and senior standing. 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.

**[ES] 453. International Marketing** (3 cr) Prereq: completed 6 hrs marketing course work. Special marketing problems of international business. Emphasis divided between export marketing and domestic marketing of US 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.

**460. Special Topics in Marketing** (3 cr) Prereq: MRKT 341 and permission. Topic varies depending on the instructor and students.

**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: Permission.

**\*822. Survey of Buyer Behavior** (3 cr) Prereq: Permission.

**\*824. Advanced Quantitative Analysis in Marketing** (3 cr) Prereq: Permission.

**\*830. Strategic Issues in Marketing Communication** (3 cr) Prereq: Permission.

**\*835. Marketing Channels and Distribution** (3 cr) Prereq: Permission.

**\*855. Marketing in Select Foreign Countries** (3 cr)

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

**805. Marketing Management** (3 cr) Prereq: GRBA 801, 802, and 803; or equivalent or parallel.

**806. Management Theory/Organizational Behavior** (3 cr) Prereq: GRBA 801, 802, and 803; or equivalent or parallel.

**\*810. Contemporary Managerial Accounting** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*811. Managerial Finance** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*812. Managerial Economics** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*813. Managerial Marketing** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*814. Applied Organizational Behavior** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*815. Operations and Information Systems Strategy** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*851. Managerial Decision Making** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*852. International Business** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*853. Strategic Management and Business Policy** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*860. Management: Theory, Issues and Practice** (3 cr) Prereq: Admission to the MBA program and/or permission of the MBA director.

**\*890. Administrative Internship** (1-3 cr per sem) Prereq: Admission to the MBA program and/or permission of the MBA director; and the permission of a graduate faculty member. *Maximum of 6 semester hours of GRBA \*890 can be counted towards a graduate degree.*

**\*896. Directed Readings or Research in Business** (1-3 cr per sem) Prereq: Admission to the MBA program and/or permission of the MBA director and the permission of a graduate faculty member.

**\*898. Managerial Skills Seminar (A, B, D, E, G, J)** (1-3 cr per sem) Prereq: Admission to the MBA program and/or permission of the MBA director.

## Graduate Programs

### Graduate Study in Business Administration

Work toward the master of business administration, master of business administration-juris doctorate, master of professional accountancy, master of professional accountancy-juris doctorate, master of arts, and doctor of philosophy degrees in business administration is offered through the interdepartmental cooperation of the School of Accountancy and the departments of finance, management, and marketing. The degrees are offered through the Graduate College. Admission materials are available from:

Office of Graduate Studies  
University of Nebraska-Lincoln  
301 Canfield Administration Building  
PO Box 880434  
Lincoln, NE 68588-0434

Applications and official transcripts of undergraduate work should be filed with the UNL Dean for Graduate Studies, by April 15 for admission to the Summer Sessions; June 15 for enrollment in August (first semester); or November 15 for January admission (second semester). It is advisable, however, to apply much earlier if you are interested in financial aid (e.g., by February 15 for the fall semester). All transcripts will be retained by the Office of Graduate Studies.

Applicants for admission in any of the graduate programs must hold a bachelors degree from an accredited college or university and are expected to have an undergraduate grade point average of approximately B for admission to the masters programs. Applicants must have a B+ to A average in a masters program for admission to the PhD program. In addition, they must have a satisfactorily high score on the Graduate Management Admissions Test (GMAT) and present letters of recommendation evaluating their capacity for graduate study.

### Courses of Instruction (GRBA)

The prerequisite for **any** GRBA course is admission by the Business Interdepartmental Area to a graduate-level degree program (i.e., MBA, MA, MPA, etc.).

**800. Ethical and Legal Considerations in Management** (3 cr) Prereq: Graduate standing.

**801. Survey of Accounting** (3 cr) Prereq: Graduate standing.

**802. Economic Theory: Introduction and Review** (3 cr)

**804. Finance** (3 cr) Prereq: GRBA 801, 802, and 803; or equivalent or parallel.

The Department of Economics awards MA, PhD, and MA/JD degrees. A student who wishes to work toward a graduate degree in economics should apply for admission to the Graduate College. An application, GRE scores, three letters of recommendation, and official transcripts should be filed with the UNL Dean of Graduate Studies, by April 15 for admission to the Summer Sessions; by June 15 for admission to the first semester; or by November 15 for admission to the second semester.

To be admitted without deficiencies, the student should have completed one semester each of intermediate microeconomic and macroeconomic theory, statistics, calculus, and algebra. Deficiencies may be removed by initial registration in undergraduate courses; the credits earned cannot be counted toward the formal requirements for an advanced degree.

For details of the graduate programs in economics, see the *Graduate Studies Bulletin* or contact the Economics Department.

## Mostafa Khattab

"I teach at the University because of my students and the relationship we share in learning. I always see learning as a process of working and communicating — faculty with students and students with faculty. My responsibility is to share knowledge, create excitement about how to use that knowledge, and assist students in understanding the relationship between the material being taught and their future. In my classes, learning is for life experience, not just for an exam.

"I must set an example for my students by being a lifelong learner. My undergraduate degree is in mechanical engineering, and my graduate degrees are in industrial engineering. When I came to the University of Nebraska to teach, I built a bridge between industrial engineering materials and its application to construction management. Now I am applying computer techniques and industrial engineering methodologies to solve construction related problems. Life is more exciting when I can apply my learning and research in the classroom.

"We also are fortunate to have great support from the construction industry. How could I explain a subject in a classroom without showing how to apply it? I need the help of industry representatives and internships for students to reinforce what I teach in the classroom."

*Mostafa Khattab is an associate professor of construction management in the College of Engineering and Technology.*



# College of Engineering and Technology

**James L. Hendrix**, Ph.D., Dean, College of Engineering and Technology and Professor of Chemical Engineering

**John L. Ballard**, Ph.D., P.E., Associate Dean, College of Engineering and Technology and Professor of Industrial and Management Systems Engineering; Registered Engineer

**Paul A. Seaburg**, Ph.D., P.E., Associate Dean, College of Engineering and Technology and Professor of Civil Engineering; Registered Engineer

**Thomas W. Spilker**, M.S., Director of the Nebraska Engineering Extension Center and Instructor of Industrial and Management Systems Engineering

**Ann Koopmann**, M.A., Coordinator of Student Programs

**Alma Ramirez-Rodgers**, BA, Coordinator of Student Recruitment and Development

## About the College

### Administrative Structure

The Dean's Offices, W181 Nebraska Hall in Lincoln and 101 Peter Kiewit Institute Building in Omaha, are concerned with the general operation and direction of the College. To help students, these offices are open every working day.

The College of Engineering and Technology is subdivided into departments, each under the leadership of a chairperson or department head. Individual help is available for students in each departmental 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 and Technology enthusiastically embraces its unique role as the singular intellectual and cultural resource for engineering and technology instruction, research, and outreach within the state. The college of Engineering and Technology provides the people of Nebraska with comprehensive engineering and technology academic programs to fulfill their highest aspirations and ambitions.

The missions of the College of Engineering and Technology 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 technology, and to stimulate the intellectual development and creativity of both students and faculty; and,
- to extend exemplary engineering and technology 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.

### Engineering Technology

The College's engineering technology programs (available only on the Omaha campus) provide intensive experiences in technological applications to prepare engineering technologists for support of engineering production and operations. Graduates find rewarding careers primarily in firms and field offices of technical corporations. Some engineering technologists work with research and design engineers. Because of their applied nature, the College's bachelor of science programs in engineering technology do not prepare students for graduate study in engineering.

### 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, biological systems engineering, chemical engineering, civil engineering, computer 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 architectural, 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.

**Interdisciplinary.** The College offers an interdisciplinary bachelor of science degree program that combines course work from one or more engineering fields with course work in other disciplines such as premedicine, prelaw, predentistry, business, and physics.

### Undergraduate Programs on the Omaha Campus

**Engineering.** The College offers bachelor of science degree programs in architectural engineering, civil engineering, computer 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.

**Engineering Technology.** The School of Engineering Technology offers the associate of science degree in engineering technology with a major in manufacturing engineering technology. The bachelor of science degree in engineering technology is awarded with the following majors: construction engineering technology and manufacturing engineering technology.

**Fire Protection Technology.** An associate degree in fire protection technology is offered through the Division of Continuing Studies.

**Industrial Technology.** The College's School of Engineering Technology offers the bachelor of science degree program in industrial technology.

### Accreditation

The undergraduate engineering programs of the College of Engineering and Technology 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 campus), electrical 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.

Programs in architectural engineering<sup>1</sup>, computer engineering (Omaha campus)<sup>1</sup> and electronics engineering<sup>1</sup> are not accredited by ABET.

The associate degree program in manufacturing engineering technology and the bachelors degree programs in construction, electronics and manufacturing engineering technology in the School of Engineering Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The industrial technology and fire protection technology degree programs are not accredited by ABET.

The construction management program is accredited by the American Council for Construction Education.

### Graduate Programs

Courses supporting several engineering graduate programs are offered both on and off campus. For details on programs leading to the masters and the 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 and Technology.

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 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, and mechanical engineering. A professional practice oriented graduate degree is offered as the master of engineering. 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, engineering mechanics, and electrical and systems engineering (computer science).

### 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 and Technology 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 and Technology scholarships.

A significant number of entering engineering and technology 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 and technology 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 and technology 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 and technology 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, engineering technology, computer science, and construction management. Associated with the various departments in the College are student branches of the major national technical and scientific societies.

**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; and the Society of Manufacturing Engineers.

**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 Professional Engineers—Student Chapter, Society of American Military Engineers, Society of Women Engineers; and Society of Automotive Engineers.

On the **Omaha campus:** Minorities in Engineering and Society of Women Engineers.

### 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 (i.e., 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.

1. An engineering program is eligible for consideration for accreditation by ABET only after one or more students have graduated from the program.

## Student Publications

*The Blueprint* is a student magazine published on the Lincoln campus and distributed to all campuses. A weekly *Blueprint Newsletter* is also distributed to all campuses.

## Career-Related Experience

The University of Nebraska-Lincoln College of Engineering and Technology 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 pre-determined 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 Protégé Experience (EPE) is a new program instituted by the College, designed to connect employers with engineering and construction management students, from the very first summer, in paid full-time summer positions.

*Students are not required to participate in Cooperative Education or EPE, 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, including the annual Engineering and Technology Career Fair in February. 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. And, it is an important component of the College's graduate programs.

## University of Nebraska Engineering Extension

Engineering Extension is a service organization of the College of Engineering and Technology. Engineering Extension is also designated as a US Department of Commerce Economic Development Administration University Center Program.

The mission of Engineering Extension is to enhance the engineering and technical capabilities of manufacturers and other businesses in the state with the expressed purpose of stimulating and maintaining industrial competitiveness.

The mission is accomplished through a programmatic systems approach guided by the following Service Model.

### Engineering Extension Services

- Internet (Web Server) Resources
- Information Searches
- Links to NASA and Federal Labs
- Homestead Manufacturing System (Supplier Manufacturing)

### University Faculty and Facilities

- Advice from Faculty
- Linkage to University Research
- Access to University Facilities
- Educational Program Information

### Technology Transfer Center

- Public Infrastructure
- Services to Counties & Municipalities
- Technology for Street, Bridge & Highway Maintenance
- Continuing Education

### Research Integration

- Technology Packaging
- Technology Flow to Industry

Services may be accessed by calling the Engineering Extension Office, 402/472-5600, or accessing our program on the Web Server: <http://www.engext.unl.edu>.

## Continuing Engineering Education

In cooperation with the Division of Continuing Studies 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 masters degrees in mechanical engineering, industrial and management systems engineering, and manufacturing engineering through CORPNET. These courses are delivered to off-campus locations in Lincoln, Omaha, Columbus, and Scottsbluff.

## 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 and Technology must have high school credit for (one unit is equal to one high school year):

1. 4 units of mathematics, including 2 of algebra, 1 of geometry, one-half unit of trigonometry, and one-half unit of precalculus.
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 and Technology 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 an SAT (verbal plus math) of 1110 or greater. Students who lack college entrance requirements may be admitted on a provisional status based on ACT scores, high school rank, and high school credits.

Students who lack entrance units may complete precollege training by evening or correspondence courses through the UNL Division of Continuing Studies, 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. Nonresidents 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 and Technology.

The College of Engineering and Technology does not accept courses for transfer in which a D grade 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 and Technology 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 and Technology

**1. Pre-Engineering and Pre-Construction Management Students.** New students are accepted into the College of Engineering and Technology 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 and Technology.

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 and Technology 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 Technology 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 and Technology 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 reclassified 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 and Technology

Students who have not been admitted to the College of Engineering and Technology are classified as "restricted" and thus are limited in the choice of College of Engineering and Technology 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 and Technology. Restricted students are substantially limited in the choice of courses that may be taken in the College. Restricted students may:

- Retake D's and F's in College of Engineering and Technology courses on a space available basis.
- Repeat a maximum of three courses in the College any one of which may be taken only twice.
- Enroll in CNST 101/102, 131/132, and 281/282.
- Enroll in ENGM 220, and 324.
- Enroll in AGEN 112, BSEN 112, CIVE 112, IMSE 150, MECH 100 and 130 on a space available basis. Pre-engineering students have priority in these two courses.
- Not enroll in CHME 112 or ELEC 121 without written 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 and Technology:

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 and technology courses. Students may take any one engineering and technology 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 and Technology. 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 33).
4. Students in the College of Engineering and Technology are not allowed to take any required course on a pass/no pass basis. However, students may take up to 12 credit hours of courses in the humanities and social sciences electives on a pass/no pass basis.
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 and Technology.
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 ten (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 and technology 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 and Technology. Sophomore engineering and technology students are required to attend ENGR 020, Sophomore Engineering Seminar, a zero credit course.

**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.

## School of Engineering Technology

Policies of the School of Engineering Technology are stated in the *University of Nebraska at Omaha Undergraduate Catalog*.

## Comprehensive Education

### Essential Studies [ES]

#### Subject Area

Each student will take a total of nine courses in essential areas of learning: communication, the social and behavioral sciences, mathematics, natural science, historical studies, the humanities, the arts, and human diversity. This requirement represents the minimum experience for an undergraduate student in the full range of university offerings. Thus no ES course can simultaneously fulfill the requirement for two areas. See the following Humanities and Social Sciences Electives section.

### Integrative Studies [IS]

#### Way of Teaching

Each student will take nine courses which have been reviewed and designated as Integrative Studies courses. These are standard university courses which engage students intensively in those intellectual activities which are the hallmarks of the educated person—writing, speaking, critical thinking, and the consideration of human diversity. Integrative Studies courses can be taken from any university department (including the major), with a limit of three from one department. Out of nine IS courses, at least one must be a 200-level course, one a 300-level course, and one a 400-level course.

**NOTE:** Many IS courses will also be ES courses, so that students will be able to fulfill both requirements without adding to the hours needed for graduation.

Students pursuing bachelors degrees in agricultural engineering, biological systems engineering, chemical engineering, civil engineering, computer engineering, or mechanical engineering must use one or more elective courses to fulfill the IS requirement. Students should consult with academic advisers about IS requirements and their degree programs.

## Co-Curricular Experience

The opportunities at UNL to engage in artistic, cultural, political, career, international, religious, and leadership activities form a vital portion of any student's education. Thus the Comprehensive Education Program, through the Student Affairs office and academic advisers, will formally encourage all undergraduates to involve themselves in the full range of activities and presentations on campus and in the larger community.

Please refer to the following section for a listing of courses.

## Humanities and Social Sciences Electives

Engineering and construction management majors who graduate on the Lincoln campus are required to complete a program of **18 credit hours (6 courses)** in the social sciences and humanities.

- At least five courses must be chosen from four of the AREAS C, E, F, G, H listed below (minimum of 15 credits).
- No more than one course (maximum of 3 credits) may be chosen from AREA I with the approval of an academic adviser.
- At least two courses must be taken from a single department.

Course work in humanities and social sciences helps to fulfill the Comprehensive Education requirement in Essential Studies.

**NOTE:** Courses in **bold** indicate an Integrative Studies course.

### AREA C: Human Behavior, Culture and Social Organizations

Agricultural Economics – 141 (*credit may not be received for both ECON 212 and AECN 141*), 265, 276, **346**, 376, 442

Agricultural – **292**

Agricultural Leadership, Education and Communication – **189H**, **202**, **302**

Anthropology – 107, 110, 130, **212**, 222, **252**, 261, 351, 352, 353, 362, 366

Biological Sciences – **203**

Classics – **252**

Communication Studies – **130**, **189H**, 200, **211**, **280**, 283, 300, 354, **370**, **371**, 375, **380**

Economics – 210, 211, 212 (*credit may not be received for both ECON 212 and AECN 141*)

Educational Psychology – **189H**

English – **220**, **322B**

Ethnic Studies – **189H**, **211**, **212**, 218, **238**, 310, 351, 352, **448**

Geography – **120**, **140**, **181**, **242**, 271, 272, **283**, **361**, 372, 374, **375**, **378**

History – 343, 344, 346

Journalism – **485**, **486**, **487**

Journalism General – **123**

Management – 360, **360H**, **465**

Philosophy – **216**

Political Science – 100, 100H, 104, 160, **189H**, 210, 230, **232**, **238**, 260, 261, 271, **272**, 273, 310, **325**, 334, 345, 371, 373, **375**, 377

Psychology – 107, 181, 181H, **216**, 261, **263**, 268, 270, 287, **288**, 289, 310

Sociology – **101**, 107, **182**, **183**, **189H**, **200**, 201, 209, **210**, **217**, 218, 225, 241, 242, 261, **320**, **444**, **448**, **460**, **496**

Women's Studies – **189H**

### AREA E: Historical Studies

Anthropology – **232**, **252**, 439

Architecture – 240, 441, **442**

Classics – **182**, **183**, **205**, **206G**, 209, 233, **252**, 307, 308, 331

Communication Studies – **220**

Ethnic Studies – 150, 171, 241, 306, 356, 357, 370, 371, **485**

French – **321**, **322**

Geography – 334

German – **321**, **322**

History – 100, **100H**, 101, **101H**, **105** or **POLS 105**, **120**, 150, 181, **189H**, 201, **201H**, 202, **202H**, 209, 210, 211, 212, 217, 218, 219, 220, 221, 222, 223, 225, 231, 232, 241, 261, 262, 271, 272, 281, 282, 306, 307, 308, 331, 332, 333, 339, 343, 344, 346, 349, 350, 356, 357, 358, 370, 371, 372, 381, 382, 383, 384, **485**, 486

Judaic Studies – **205**, 217, 331, 332, 333

Philosophy – **223**, **231**, **232**, **331**, **335**, **336**, **337**, **338**

Political Science – **105**, 108, 171, 380, 385

Religious Studies – **182**, **183**, **205**, 206, 217, 308, 332

Spanish – **321**, **331**

### AREA F: The Humanities

Agricultural Economics – **388**

Agricultural Leadership, Education and Communication – **388**

Classics – **150G**, **180**, **182**, **183**, **189H**, **205**, **206G**, **281**, **282**, 283, 286, 307, **340**, **350**, 380, 381, **409**, 483

Communication Studies – 205, **220**, 306

English (Literature) – **180**, **189H**, **200**, **201A**, 201B, 202, 202A, **205**, **207**, 209, **210B**, **210I**, **210T**, **211A**, 211D, **213E**, **215E**, **215J**, 216A, **219**, **230**, **230A**, **231**, **233B**, 234A, 234B, 234D, **240A**, **240B**, **243B**, **244**, **244A**, **244B**, **244D**, **244E**, **245B**, **245D**, **245J**, 247, **261E**, **282**, 285, **303**, **305A**, 311D, **315A**, **315B**, **330E**, **340**, **341**, **342A**, **347**, **361A**, **361B**, **362**, **363**, **364**, **365**, **373**, 381, 440

Ethnic Studies – **189H**

French – 282, 283, **301**, **302**

German – 282, 283, **301**, **302**

History – 307, 349, 350, **409**

Italian – 301, 302

Judaic Studies – **205**, **340**, **350**

Modern Language – **189H**, 230G, 232, 234D, 285

Philosophy – **101**, **106**, **110**, **116**, **127**, **182**, **183**, **213**, **220**, 221, **223**, **230**, **231**, **232**, 265, **301**, **302**, **314**, 317, **320**, **323**, **325**, **327**, 331, **332**, **335**, **336**, **337**, **338**, 340, **341**

Portuguese – 301, 302

Religious Studies – **150**, **182**, **183**, **205**, 307, **310**, **340**, **350**, **409**

Russian – 301, 302, **482**, **483**

Spanish – 264, 265, 282, 283, **305**, **311**, **312**, **314**, **315**, 331

Women's Studies – **189H**

### AREA G: The Arts

Art History – 101, 102, 211, 216, 221, 226, 231, 246, 251, 256, 261, 262, 341, 388, 389, 471

Architecture – 106

Dance – **159**, **359**, **459**

Music – **189H**, **278**, **365**, **366**, **370H**

Music for Non Majors – **276G**, **280**, **287**, 387, 388, 389

Theatre Arts – **112G**, **112H**, **335**, **336**, 388, 389

### AREA H: Race, Ethnicity and Gender

Anthropology – 252, 351, 352, 362, 366

Classics – **182**, **183**, **252**, **340**, **350**

Communication Studies – **211**, **380**

Economics – 357

English – **210B**, **215E**, **215J**, **239B**, **243B**, **244**, **244A**, **244B**, **244D**, **244E**, **245B**, **245D**, **245J**, **315A**, **315B**

Ethnic Studies – 100, 150, 171, **189H**, **211**, **238**, 241, 306, 310, 351, 352, 356, 357, 370, 371, **448**, **464**, **485**

French – **323**  
**Geography – 375, 378**  
 History – 150, 171, 181, 217, 218, 219, 225, 241, 271, 272, 281, 282, 306, 332, 333, 339, 356, 357, 358, 370, 371, 372, 381, 382, 383, 384, **464, 485, 486**  
**Judaic Studies – 217, 322, 333, 340, 350**  
**Management – 361, 428**  
**Modern Languages – 232**  
**Music – 370H**  
**Music for Non Majors – 280**  
**Political Science – 238, 272, 375, 377**  
**Psychology – 310, 421**  
**Religious Studies – 182, 183, 217, 332, 340**  
**Sociology – 182, 183, 189H, 200, 217, 218, 448, 460**  
**Spanish – 264, 265, 331**  
**Women's Studies – 189H**

#### AREA I: Other

Economics – 321, 322, 323, 340, 360, 373, 374, 375, 376, 381, 388, 389, 427, 428, 433, 434, 457, 458, 475  
 Philosophy – 215, 217, 228  
 Modern Languages – Any language course (*only 3 credits of the 5-credit 100-level courses in modern languages*)  
**University Foundations – 101/102 or 103**  
 ROTC – AERO 185, 295, 296, 331, 332, 442, 471, 474, 481; MLSC 221, 222, 422; NAVS 321, 412

**NOTE:** Honors seminars UHON 395H and undesignated 189H will count in the Essential Studies areas as designated by the Honors Program.

### Approved Minors for College of Engineering and Technology Students

The College of Engineering and Technology 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 and Technology 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 and Technology Curriculum Committee and faculty.

### Approved Minors

**Agricultural Economics:** See "Agricultural Economics Minor" on page 64.  
**Agricultural Leadership, Education and Communication:** See "Leadership and Communication Minor" on page 66.  
**Agronomy:** See "Agronomy Minor" on page 70.  
**Animal Science:** See "Animal Science Minor" on page 73.  
**Art History:** See "Art History Minor" on page 135.  
**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 135.  
**Biological Sciences:** See "Requirements for the Minor in Biological Sciences" on page 136.  
**Business:** See "Business" on page 139.  
**Communication Studies:** See "Requirements for the Minor in Communication Studies" on page 145. NOTE: Engineering and technology students may not use internship credit to satisfy this minor.  
**Economics:** See "Requirements for the Minor in Economics" on page 151.  
**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 153.  
**Ethnic Studies:** See "Requirements for the Minor in Ethnic Studies" on page 159.  
**European Studies:** See "Requirements for the Minor in European Studies" on page 161.  
**Geology:** See "Requirements for the Minor in Geology" on page 164.  
**History:** See "Requirements for the Minor in History" on page 167.  
**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 165.  
**Modern Languages** See "Requirements for the Minor in Czech, French, German, Italian, and Russian" and "Requirements for the Minor in Spanish" on page 178.  
**Music:** See "Requirements for the Minor in Music (Plan A only)" on page 272.  
**Philosophy:** See "Requirements for the Minor in Philosophy" on page 183.  
**Political Science:** See "Requirements for the Minor in Political Science" on page 188.  
**Psychology:** See "Requirements for the Minor in Psychology" on page 190.  
**Sociology:** See "Requirements for the Minor in Sociology" on page 192.  
**Water Science:** See "Water Science Minor" on page 98.  
**Women's Studies:** See "Requirements for the Minor in Women's Studies" on page 194.

### 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.

**Business Administration.** There are many ways in which management, economics, accounting, finance, and marketing have an interface with engineering and technological aspects of business. This program provides an educational base for such a career and may also serve as a base for continuing with the MBA.

**Interdisciplinary.** There are many other interdisciplinary possibilities in which engineering can be blended with a study of other disciplines, such as biological sciences, environmental

systems, food processing, community planning, and water, air, and land resources. In every case the student will need to carefully plan the program with assistance from the faculty.

## LINCOLN CAMPUSES

### Department of Biological Systems Engineering

**Head:** Glenn J. Hoffman

**Professors:** Bashford, Edwards, Eisenhauer, Grisso, Hanna, Martin, Meyer, Schinstock, Schulte

**Associate Professors:** Jones, Kocher, Meagher, Weller

**Assistant Professor:** Brand

Two engineering majors are offered in the Department of Biological Systems Engineering. They are biological systems engineering and agricultural engineering. Job opportunities for both majors 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 fermenters to mass produce new pharmaceuticals, or develop extruders to manufacture new foods. Still another could be responsible for developing biological sensors to 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 economic 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, bioengineering, 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; processing systems; engineering properties of food and biosynthetic materials; irrigation hydraulics; and pollution control. Modern instruments available in the laboratories include computers; electronic image processors; water and air flow measurement devices; plant and animal environment chambers; and computer-aided design equipment. Fermenters, cross-flow filtration devices, protein purification and separation equipment, and chromatography units for student laboratories are located in Filley Hall and the Food Industry Complex. The department maintains a student computer laboratory, a student activities room, a student design room, and a library. The Nebraska Tractor Testing 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.

The educational objectives for both undergraduate programs:

- Assure students master the fundamental sciences and mathematics and be able to apply the essential analyses and designs specific to their chosen profession.
- Develop graduates to enter engineering practice with concern for and capabilities to responsibly address issues of ethics, safety, professionalism, internationalism, cultural diversity, and the social and environmental impacts of engineering decisions.
- Assure students will be knowledgeable of current biological and agricultural engineering research literature and be capable of applying the knowledge in developing solutions to engineering problems.
- Convince students that the baccalaureate degree is the conclusion of one phase of their education, and they must continue their education for professional growth and productivity.
- Assure graduates will successfully integrate their technical knowledge with their skills in communication and persuasion, their abilities to lead and work effectively in teams, and their understanding of the non-technical forces that impact engineering decisions.

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. Selected students participate in protege programs sponsored by the College of Engineering and Technology and the state section of our professional society where one-on-one interaction occurs with a practicing engineer. Students also benefit from summer

jobs, internships and co-op programs. These opportunities give students practical hands-on experience to learn about careers in engineering. Students also gain valuable experience through participation in professional organizations such as ASAE (The Society for Engineering in Agricultural, Food, and Biological Systems), 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 and Technology. 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)

Semester 1	Credits
BSEN 112 Problem Solving in Agricultural & Biological Systems Engineering	2
CHEM 113 Fundamental Chemistry I	4
ENGR 010 Freshmen Engineering Seminar	0
MATH 106 Analytic Geometry & Calculus I	5
Humanity/Social Science Electives	6
<b>TOTAL 17</b>	

Semester 2	Credits
BSEN 118 Fundamental Design Biological & Agricultural Engineering	1
BSEN 130 Computer Aided Design	2
CHEM 114 Fundamental Chemistry II	3
CHEM 116 Quantitative Chemistry Lab	2
MATH 107 Analytic Geometry & Calculus II	5
PHYS/ASTR 211 General Physics I	4
<b>TOTAL 17</b>	

Semester 3	Credits
BSEN 225 Engineering Properties of Biological Materials	3
BIOS 101 & 101L General Biology and Lab or BIOS 201 Cell Biology	4
CHME 251/253 or 261/263 Organic Chemistry and Lab	4
ENGM 223 Engineering Statics	3
ENGR 020 Sophomore Engineering Seminar	0
MATH 208 Analytic Geometry & Calculus III	4
<b>TOTAL 18</b>	

Semester 4	Credits
BIOC 321/321L Biochemistry and Lab	4
ENGM 373 Engineering Dynamics	3
MATH 221 Differential Equations	3
MECH 200 or CHME 322 Thermodynamics	3
Written Communication Elective <sup>2</sup>	3
Computer Programming Elective <sup>3</sup>	1
<b>TOTAL 17</b>	

Semester 5	Credits
CIVE 310 or MECH 310 or CHME 332 Fluid Mechanics	3
ELEC 211 Elements of Electrical Engineering I	3
IMSE 321 or MATH 380 Probability & Stats	3
BSEN Emphasis Elective <sup>4</sup> (see list below)	3
Humanity/Social Science Elective	3
Oral Communication Elective <sup>5</sup>	3
<b>TOTAL 18</b>	

2. Can choose from JGEN 200 or 300.  
3. Can choose from CSCE 150, 155, 251K, 251U, 252D, or MNGT 250.

Semester 6	Credits
BSEN 344 Biological & Environmental Transport Processes.....	3
Biological Science Elective <sup>6</sup> .....	3
BSEN Emphasis Elective <sup>4</sup> (see list below).....	3
Engineering Emphasis Elective.....	3
Interpersonal Communication Elective <sup>7</sup> .....	3
<b>TOTAL 15</b>	

Semester 7	Credits
BSEN 460 Instrumentation & Controls.....	3
BSEN 470 Senior Design I.....	1
IMSE 206 or CHME 452 Engineering Economics.....	3
BSEN Emphasis Elective <sup>4</sup> (see list below).....	3
Engineering or Science Emphasis Elective.....	3
Humanity/Social Science Elective.....	3
<b>TOTAL 16</b>	

Semester 8	Credits
BSEN 480 Design in Agricultural & Biological Systems Engineering.....	3
ENGR 400 Engineering Ethics.....	1
BSEN Emphasis Elective <sup>4</sup> (see list below).....	3
Biological Science Elective <sup>6</sup> .....	3
Engineering or Science Emphasis Elective.....	3
Humanity/Social Science Elective.....	3
<b>TOTAL 16</b>	

### Total Credit Hours Required: 134

### BSEN Emphasis Courses

#### Food and Biochemical

BSEN 303 Principles of Bioprocess Engineering  
BSEN 446 Unit Operations of Biological Processing

#### Bioengineering

BSEN 317 Principles of Bioengineering  
BSEN 417 Human Health Engineering

#### Water and Environment

BSEN 326 Intro to Environmental Engineering  
BSEN 350 Water Resources Engineering  
BSEN 453 Design of Water Management Systems  
BSEN 455 Nonpoint Source Pollution Control Engineering

### Courses of Instruction

### Biological Systems Engineering (BSEN)

**[ES] 112. Engineering in Agricultural and Biological Systems** (AGEN 112) (2 cr) Lec 2.  
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.

**[ES] 118. Fundamentals of Design for Agricultural and Biological Systems Engineering** (AGEN 118) (1 cr II) Lec 1. Prereq: BSEN/AGEN 112 or permission.  
Introduction to principles of engineering design, communications, and project management. Role of ethics and professionalism and social, economic, and environmental factors in engineering design.

**130. Computer-Aided Design** (2 cr II) Lec 1, lab 3.  
Prereq: AGEN/BSEN 112 or permission.  
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 II) 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.

**303. Principles of Process Engineering** (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.

**317. Principles of Bioengineering** (3 cr I) Lec 2, lab 2.  
Prereq: Junior standing or permission and one semester of biology.  
Ergonomic, biomaterial, bioelectrical, biomechanical, rehabilitative, tissue and biochemical engineering. Laboratory covers each of these areas through experiments and design.

**[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.

**344. Biological and Environmental Transport Processes** (AGEN 344) (3 cr II) Lec 2, lab 2, rct 1. Prereq: BSEN 224 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.

**441/841. Animal Waste Management** (3 cr I) Lec 3.  
Prereq: Senior standing or permission.

Characterization of wastes from animal production. Specification and design of collection, transport, storage, treatment, and land application systems. Air and water pollution, regulation and management aspects.

**446/846. Unit Operations of Biological Processing** (3 cr II) 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.

**455/855. Nonpoint Source Pollution Control Engineering** (CIVE 455/855) (3 cr) Prereq: BSEN/CIVE 326 and CIVE 352 or permission.  
Identification, characterization, and assessment of nonpoint source pollutants; transport mechanisms and remediation technologies; design methodologies and case studies.

**460/860. Instrumentation and Controls** (AGEN 460/860) (3 cr I) 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.

**470. Design I in Agricultural and Biological Systems Engineering** (AGEN 470) (1 cr I, II) 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.

**470H. Honors: Design Project I** (AGEN 470H) (1 cr)  
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.

**[IS] 480. Design II in Agricultural and Biological Systems Engineering** (AGEN 480) (3 cr I, II) Lab 3. Prereq: BSEN/AGEN 470. *A full semester design activity.*  
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.

**480H. Honors: Design Project II** (AGEN 480H) (3 cr)  
Prereq: Good standing in the University Honors Program or by invitation; BSEN/AGEN 470H. *The project culminated in a formal presentation of the project to UNL faculty and submission of a bound report to the UNL Honors Program.*

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.

**496. Special Problems** (AGEN 496) (1-6 cr I, II, III)  
Prereq: Senior standing and permission.  
Investigation and written report on engineering problems not covered in sufficient depth through existing courses. Topics vary.

**499H. Honors Thesis** (AGEN 499H) (1-6 cr) 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.

**889. Seminar I** (AGEN \*889) (1 cr) *Required for all entering graduate students.*

**898. Internship** (AGEN \*898) (1-6 cr) Prereq: Permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

- An emphasis area requires a student to take 21 hours of engineering and science-based courses. A minimum of 15 hours must be selected from courses offered by the College of Engineering and Technology and a minimum of 2 hours of emphasis electives must be selected from biological sciences. Within the 15 hours, a minimum of 12 hours must be a 400-level course of a primary emphasis area. Water and Environment Emphasis requires both BSEN 326 and BSEN 350, Food and Biochemical Emphasis requires BSEN 303 and Bioengineering Emphasis requires BSEN 317 as primary emphasis area courses.
- Can choose from COMM 209 or 311.
- BIOS 203 is not acceptable.
- Counts as Humanity/Social Science course and can choose from ALEC 202 or 302, or COMM 210, 211, 283, 371, or 380, or MNGT 360.

## Requirements for the Degree of Bachelor of Science in Agricultural Engineering (Lincoln campus)

Semester 1	Credits
AGEN 112 Problem Solving in Agricultural & Biological Systems Engineering.....	2
CHEM 111 Chemistry for Engineering & Technology <sup>8</sup> .....	4
ENGR 010 Freshman Engineering Seminar.....	0
MATH 106 Analytic Geometry & Calculus I.....	5
Agricultural or Biological Sciences Elective <sup>9</sup> .....	3
Humanity/Social Science Elective .....	3
	<b>17</b>
Semester 2	Credits
AGEN 118 Fundamental Design Biological & Agricultural Engineering.....	1
MATH 107 Analytic Geometry & Calculus II.....	5
MECH 130 Intro to CAD.....	2
PHYS/ASTR 211 General Physics I .....	4
Humanity/Social Science Electives .....	6
	<b>18</b>
Semester 3	Credits
AGEN 225 Engineering Properties of Biological Materials.....	3
ENGM 223 Engineering Statics .....	3
ENGR 020 Sophomore Engineering Seminar .....	0
MATH 208 Analytic Geometry & Calculus III.....	4
PHYS/ASTR 212 General Physics II.....	4
Written Communication Elective <sup>2</sup> .....	3
	<b>17</b>
Semester 4	Credits
ENGM 373 Engineering Dynamics .....	3
IMSE 206 Engineering Economy I .....	3
MATH 221 Differential Equations.....	3
MECH 200 Thermodynamics.....	3
Oral Communication Elective <sup>5</sup> .....	3
Computer Programming Elective <sup>3</sup> .....	1
	<b>16</b>
Semester 5	Credits
CIVE 310 or MECH 310 Fluid Mechanics .....	3
ELEC 211 Elements of Electrical Engineering I.....	3
ENGM 325 Mechanics of Elastic Bodies .....	3
Engineering Emphasis Elective .....	3
Interpersonal Communication Elective <sup>7</sup> .....	3
	<b>15</b>
Semester 6	Credits
AGEN 325 Power Systems .....	3
AGEN 344 Biological & Environmental Transport Processes.....	3
IMSE 321 or MATH 380 Probability & Stats .....	3
Management Elective <sup>10</sup> .....	3
Engineering or Science Emphasis Elective .....	3
	<b>15</b>
Semester 7	Credits
AGEN 424 Machine Design in Agricultural Engineering .....	3
AGEN 460 Instrumentation & Controls.....	3
AGEN 470 Senior Design I.....	1
ENGM 480 Computer Methods .....	3
Engineering Emphasis Elective .....	3
Humanity/Social Science Elective .....	3
	<b>16</b>
Semester 8	Credits
AGEN 443 Light-Frame Design.....	3
AGEN 453 Irrigation & Drainage Systems .....	3
AGEN 480 Senior Design II.....	3
ENGR 400 Engineering Ethics.....	1
Humanity/Social Science Elective .....	3
Engineering Emphasis Elective .....	3
	<b>16</b>
<b>Total Credit Hours Required: 130</b>	

## Courses of Instruction

### Agricultural Engineering (AGEN)

**[ES] 112. Engineering in Agricultural and Biological Systems** (BSEN 112) (2 cr) Lec 2.  
For course description, see BSEN 112.

**[ES] 118. Fundamentals of Design for Agricultural and Biological Systems Engineering** (BSEN 118) (1 cr II) Lec 1. Prereq: BSEN/AGEN 112 or permission.  
For course description, see BSEN 118.

**[IS] 225. Engineering Properties of Biological Materials** (BSEN 225) (3 cr II) Lec 2, lab 2. Prereq: MATH 106.  
For course description, see BSEN 225.

**323. Unit Operations of Agricultural Machines** (3 cr I) 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.

**[IS] 325. Power Systems Design** (BSEN 325) (3 cr II) 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.

**344. Biological and Environmental Transport Processes** (BSEN 344) (3 cr II) Lec 2, rct 1, lab 2. Prereq: BSEN 224 or MECH 200; MATH 221; MECH/CIVE 310 or CHME 332; or permission.  
For course description, see BSEN 344.

**350. Soil and Water Resources Engineering** (BSEN 350) (3 cr I) Lec 2, lab 3. Prereq: MATH 221 and parallel: MECH/CIVE 310 or CHME 332.  
For course description, see BSEN 350.

**[IS] 424/824. Machine Design in Agricultural Engineering** (3 cr I) Lec 3. Prereq: Senior standing and ENGM 325.  
Design of machine elements. Definition, analysis, and solution of a design problem in agricultural engineering.

**431. Site-specific Crop Management** (AGRO, MSYM 431) (3 cr I) Lec 2, lab 3. Prereq: Senior standing; AGRO/SOIL 153; AGRO 204; or permission.  
For course description, see AGRO 431.

**443. Design of Light-Frame Structures** (3 cr II) 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** (3 cr II) Lec 2, lab/rct 2. Prereq: MECH 318 and 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 including 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.

**[IS] 480. Design II in Agricultural and Biological Systems Engineering** (BSEN 480) (3 cr I, II) Lab 3. Prereq: BSEN/AGEN 470. A *fall 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 I, II, III) 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*.

**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 Engineering

**Chair:** James M. Eakman

**Professors:** Clements, Eakman, Hendrix, Timm

**Associate Professors:** Larsen, Lauderback, Viljoen

**Assistant Professors:** Brand, Noureddini

The mission of the chemical engineering program is to educate qualified students in engineering sciences and engineering design methods to prepare them for successful professional careers and to contribute to the needs of society.

In pursuit of the mission, the Department of Chemical Engineering has the following Educational Objectives for its undergraduate program:

- Educate students in the principles and methods essential to modern chemical engineering consistent with the curricular requirements of the AIChE.
- Broaden perspectives of students regarding social issues and responsibilities, ethics, and professionalism.
- Graduate BS chemical engineers recognized for excellence and educated to successfully compete for positions in local, state, and national industry, and enter high quality graduate programs throughout the country.
- Create and provide access to knowledge that is supportive of the needs of chemical engineering.
- Facilitate growth of practicing professionals through lifelong learning opportunities.
- Respond to the technical needs for economic development and diversification in the state and region.

The Department of Chemical 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.

8. CHEM 109 and 110 may be substituted for CHEM 111. Only 4 credits count towards graduation.  
9. Can choose from ASCI 240, or BIOS 101, 109, 111, 112, 201 or 202, or NRES 211.  
10. Can choose from MNGT 335, 360, or 361, or IMSE 305.

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 chemical engineering laboratories are located in the chemical engineering wing of Avery Hall. 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 as well as providing direct access to the University mainframes. Additional research equipment is available for independent and graduate study in several areas.

The chemical 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 the opportunity to gain new knowledge in an area of engineering or science beyond the basic undergraduate chemical engineering program. To ensure a balanced use of the technical electives, at least 3 credit hours of technical electives must be in engineering design and 3 must be in engineering science. The remaining technical elective credits may be in engineering design, engineering science, physical sciences, life sciences and/or math. Special emphasis options available in the chemical engineering department include biotechnology/bioengineering, materials technology, environmental engineering, and chemical engineering computation. Courses lacking a quantitative physical science, mathematical, or life 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. ENGM 111 and 112 are not accepted as technical electives.

For those students who have been admitted to the University Honors Program, junior- and senior-level chemical 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 engineering program whose grade point average in required chemical engineering courses is less than 2.0 will be admitted to the required courses of the following year only with the special permission of the department.

Semester 1	Credits
CHEM 113 Fundamental Chemistry I <sup>11</sup>	4
CHME 112 Intro to Chemical Engineering	3
MATH 106 Analytic Geometry & Calculus I	5
Humanity/Social Science Electives <sup>12</sup>	6
ENGR 010 Freshman Engineering Seminar	0
	<b>18</b>
Semester 2	Credits
CHEM 114 Fundamental Chemistry II <sup>11</sup>	3
CHEM 116 Quantitative Chemistry Lab <sup>11</sup>	2
MATH 107 Analytic Geometry & Calculus II	5
PHYS/ASTR 211 General Physics	4
Humanity/Social Science Elective <sup>12</sup>	3
	<b>17</b>
Semester 3	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/ASTR 212 General Physics	4
	<b>18</b>
Semester 4	Credits
CHEM 262 Organic Chemistry	3
CHEM 264A Organic Chemistry Lab	1
CHME 322 Chemical Engr Thermodynamics I	3
CSCE 155 Intro to Computer Science I	3
JGEN 200 Technical Communications I	3
MATH 221 Differential Equations	3
	<b>16</b>
Semester 5	Credits
CHEM 481 Physical Chemistry	4
CHME 312 Chemical Engineering Computation	3
CHME 323 Chemical Engr Thermodynamics II	3
CHME 332 Transport Operations I	3
Humanity/Social Science Elective <sup>12</sup>	3
	<b>16</b>
Semester 6	Credits
CHEM 482 Physical Chemistry	4
CHME 203 Equilibrium Stage Operations	3
CHME 333 Transport Operations II	3
ELEC 211 Elements of Electrical Engr	3
Humanity/Social Science Elective <sup>12</sup>	3
	<b>16</b>
Semester 7	Credits
CHME 430 Chemical Engineering Lab	4
CHME 442 Chemical Reactor Engineering & Design	3
CHME 452 Chemical Engineering Processing Economics & Optimization	3
Technical Electives <sup>12</sup>	6
	<b>16</b>
Semester 8	Credits
CHME 453 Chemical Engineering Process Design..	3
CHME 460 Automatic Process Control Lab	1
CHME 462 Automatic Process Control	3
ENGR 400 Professional Ethics & Social Responsibility	1
Technical Electives <sup>12</sup>	6
Humanity/Social Science Elective <sup>12</sup>	3
	<b>17</b>

**Total Credit Hours Required: 134**

## Courses of Instruction (CHME)

**112. Introduction to Chemical Engineering** (3 cr I) Lec 3. The chemical engineering profession, basic engineering calculations, chemical process measurements and calculations, underlying natural laws and relationships, properties of single compounds, properties of mixtures, design of equipment and unit operations, process flowsheets and systems analysis, material balances including those with chemical reaction, purge and recycle, sources of data.

**202. Mass and Energy Balances** (3 cr I) Lec 3. Prereq: CHEM 114, CHME 112 (CSCE 150 or ENGM 112 for transfer students). Parallel: MATH 107. 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. 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 in chemical engineering; 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. Parallel: CHEM 481. Application of the three fundamental laws to chemical engineering problems.

**323/823. Chemical Engineering Thermodynamics II** (3 cr II) Lec 3. 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: CHME 332. Continuation of CHME 332.

**412/812. Advanced Topics in Chemical Engineering Computation** (1-6 cr) Prereq: CHME 312 or CSCE 455 or ENGM 480 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.

**[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 chemical engineering. Credit will not be given for this course and for IMSE 206. 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.

1. 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.
2. Humanity/social science electives 18 hours (see "Lifelong Learning" on page 228). The 12 hours of technical electives must include at least 3 credit hours of engineering science. All must be approved by the adviser. ENGM 111 and 112 are not acceptable technical electives.

**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.

**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.

**492/892. Air Pollution, Assessment and Control** (3 cr) Prereq: Senior standing or permission. 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.

**499. Senior Problems** (1-6 cr) Conf and lab. Prereq: Senior standing in chemical engineering. Research and development problems which include literature surveys, equipment design and operation, and development of correlations.

**499H. Honors Thesis** (1-6 cr) Conf and lab. Prereq: Senior standing in chemical 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 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.

**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

**Co-chair: Mohamed F. Dahab - Lincoln**

**Co-chair: Raymond K. Moore - Omaha**

**Professors:** Benak, Bogardi, Dahab, McCoy, Moore, Seaburg, Sherrard, Tadros

**Associate Professors:** Azizinamini, Dvorak, Krause, Moussavi, Rohde, Rosson, Sicking, Sneddon, Tuan, Zhang

**Assistant Professors:** Admiraal, Bakker, Jones, Rizos, Stansbury

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 civil engineering undergraduate curriculum are:

1. To prepare our graduates for entry into the civil engineering profession:
  - a. Through completion of rigorous and comprehensive undergraduate curriculum which includes mathematics, basic sciences, communications, humanities, social sciences, engineering analysis and design.
  - b. Through completion of integrated laboratory exercises and experimental demonstrations.
  - c. Through team-based design assignments and projects.
  - d. Through interacting with a faculty with a critical understanding of the ethical and professional demands associated with contemporary civil engineering practice.
2. To prepare our graduates for entry into advanced graduate or professional programs of their choice (e.g. engineering, the physical and life sciences, medicine, law, etc.).
3. To prepare our graduates for a career in a profession which is held strictly accountable for understanding the effects of technology on the quality and sustainability of life.

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 490 Issues in Civil Engineering and CIVE 495 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 bachelors degrees in both fields after five 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.

Semester 1	Credits
CHEM 111 General Chemistry	4
CIVE 112 Intro to Civil Engineering	1
ENGR 010 Freshman Engineering Seminar	0
MATH 106 Analytic Geometry & Calculus I	5
Computer Skills <sup>13</sup>	3
Humanity/Social Science Elective	3

16

13. Computer skills must be selected from CSCE 150 or 155.

Semester 2	Credits
CIVE 221 Geometric Control Systems	3
MATH 107 Analytic Geometry & Calculus II	5
PHYS/ASTR 211 General Physics	4
PHYS/ASTR 220 Physics Lab <sup>14</sup>	1
Humanity/Social Science Elective	3
	<b>16</b>

Semester 3	Credits
COMM 311 Business & Professional Comm	3
ENGM 223 Engineering Statics	3
ENGR 020 Sophomore Engineering Seminar	0
JGEN 200 or 300 Technical Communications I or II	3
MATH 208 Analytic Geometry & Calculus III	4
PHYS/ASTR 212 General Physics <sup>15</sup>	4
	<b>17</b>

Semester 4	Credits
CIVE 361 Highway Engineering	4
CIVE 370 Mechanics of Materials Lab	1
ENGM 325 Mechanics of Elastic Bodies	3
ENGM 373 Engineering Dynamics	3
MATH 221 Differential Equation for Engineers	3
Humanity/Social Science Elective	3
	<b>17</b>

Semester 5	Credits
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 or IMSE 321 Statics & Applications	3
	<b>15</b>

Semester 6	Credits
CIVE 334 Intro to Geotechnical Engineering	4
CIVE 352 Intro Water Resources Engineering	4
CIVE 378 Materials of Construction	3
Computer Methods <sup>16</sup>	3
Design Elective I <sup>18</sup>	3
	<b>17</b>

Semester 7	Credits
CIVE 490 Intro to Civil Engineering Practice	1
Technical Electives <sup>17</sup>	3
Design Electives I <sup>18</sup> (see list below)	3
Design Electives II <sup>19</sup> (see list below)	3
Humanity/Social Science Electives	6
	<b>16</b>

Semester 8	Credits
CIVE 495 Senior Design Project	3
Humanity/Social Science Electives	3
Technical Electives <sup>17</sup>	10
	<b>16</b>

## Total Credit Hours: 130

### Design Electives I

CIVE 419. Flow Systems Design (3 cr)
CIVE 422. Hazardous Waste Treatment (3 cr)
CIVE 436. Foundation Engineering (4 cr)
CIVE 441. Steel Design I (3 cr)
CIVE 460. Highway Design (3 cr)

### Design Electives II

CIVE 425. Environmental Engineering Process Design (3 cr)
CIVE 440. Reinforced Concrete Design (3 cr)
CIVE 464. Traffic Control System Design (3 cr)

## Courses of Instruction (CIVE)

**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.

**221. Geometric Control Systems** (3 cr) 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 mechanical, electronic and satellite systems; collection of field data, error propagation; elementary geometric data bases for design, construction, operation and control of civil works.

**252. Construction Materials Laboratory** (1 cr) Lab 3.

Prereq: CNST 251 parallel. Laboratory experiments on soils, concrete and other construction materials as they relate to in-service conditions and acceptability.

**[ES] 310. Fluid Mechanics** (MECH 310) (3 cr) Prereq: ENGM 373, MATH 221.

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.

Honors 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.

**[ES] 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, 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 and CIVE 370.

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** (4 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** (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** (4 cr) Lec 3, lab 2. Prereq: ENGM 223 and CIVE 221.

Introduction to the principles of highway engineering and traffic operations and control.

**370. Mechanics of Materials Laboratory** (1 cr) Lab 2.

Parallel: ENGM 325.

Experiments covering the concepts of stress and strain, in the categories of axial, torsional, shear, and flexural behavior.

Mohr's Circle. Experimental analysis of beams, frames, trusses and experimental measurement of the deflections of beams and trusses. Buckling behavior of columns.

**378. Materials of Construction** (3 cr) Lec 2, lab 2. Prereq: ENGM 325.

Introduction to the behavior, testing, and design of soil, portland and bituminous concrete mixes, steel and wood.

Common ASTM lab test procedures and specifications, field quality control tests and statistical applications.

**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. Flow Systems Design** (3 cr) Lec 3. Prereq: CIVE 326, 352.

Application of hydraulic principles to the design of water distribution systems, wastewater and stormwater collection systems, channelized flow systems, and treatment facilities.

**421/821. Hazardous Waste Management** (3 cr) Prereq: CIVE/BSEN 326 or permission.

Survey of components of the hazardous waste management system in the US. Overview of federal and state regulations, classification, chemical characteristics, prevention, treatment and disposal technologies, superfund site analysis and clean-up technologies, and risk analysis.

**422/822. Hazardous Waste Treatment** (3 cr) Prereq: CIVE 326, parallel CIVE 421/821, or permission.

Analysis and design of unit operations and processes used for hazardous waste remediation of soil, water, and air. Both in-situ and ex-situ technologies and applications discussed.

**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** (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.

14. PHYS 222 is an acceptable substitute if taken parallel with PHYS/ASTR 212.

15. CHEM 221 is an acceptable substitute.

16. Computer Methods must be selected from CIVE 401 (Civil Engineering Systems), ENGM 480, or MATH 314.

17. Technical electives will be selected by the student in consultation with his/her adviser to formulate a coherent program in civil engineering. Two technical electives (up to 6 credits) can be taken from MECH 200, ELEC 211, IMSE 206 or any 200- or 300-level courses in science, mathematics, or other engineering areas approved by the department. The department has an approved list.

18. Six (6) credits must be taken from the list of courses designated Design Electives I.

19. Three (3) credits must be taken from the list of courses designated Design Electives II.

**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.

**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** (3 cr) Lec 3. Prereq: CIVE 341.

Introduction to the design concepts for reinforced concrete building components. Emphasis on design of beams for moment, shear, deflections, crack control, and bond strength. Design of compression members. Member behavior, and limit states design of members emphasized. The working stress design method discussed.

**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. Advanced Structural Analysis** (3 cr) Lec 3. Prereq: CIVE 440, 441 and Computer Methods.

Continuation of the study of analysis for structural building systems. Matrix analysis methods, and computer solutions to indeterminate analysis problems.

**444. Structural Design and Planning** (3 cr) Lec 2, lab 2. Prereq: CIVE 440, 441.

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.

**445/845. Structural Analysis III** (3 cr) Prereq: CIVE 341.

Computation of stress resultants in statically indeterminate structures, including beams and planar and three-dimensional frames and trusses, using matrix formulations (finite element method), advanced moment distributing techniques and column analogy. Consideration of shearing and axial deformations in addition to the usual flexural deformations. Effects of temperature and pre-strain, support displacements, elastic supports, and axial-flexural interaction.

**446/846. Steel Design II** (3 cr) Prereq: CIVE 441.

Continuation of CIVE 444, but directed toward building systems. Steel and timber structural systems.

**447/847. Reinforced Concrete II** (3 cr) Prereq: CIVE 440.

Use of reinforced concrete design principles in special applications, including columns and footings, and additional design concepts, including deflections, prestressing, and torsion.

**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 and 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** (3 cr) Prereq: CIVE 352 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.

**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.

**465/865. Traffic Engineering Laboratory** (1 cr) Lab 3. Prereq: CIVE 361 and STAT 380.

Traffic engineering experiments and field studies used to measure traffic characteristics and driver/pedestrian behavior. Measurements of traffic flow, speed, density, travel time, delay, platoon dispersion, saturation flow, parking characteristics, and traffic conflicts. Perception-reaction time and gap acceptance measurements.

**468/868. Portland Cement and Asphalt Concrete Laboratory** (1 cr) Prereq: CIVE 378 or equivalent.

Laboratory and field procedures used to obtain portland cement and asphalt concretes for engineered construction.

**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.

**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.

**490. Issues in Civil Engineering** (1 cr) Lec 1. Prereq:

Senior standing in civil engineering or permission.

Basic elements of civil engineering practice; roles of all participants in the process—owners, designers, architects, contractors, and suppliers; emphasis on contractual aspect of the process—project estimating, planning and controls.

**[IS] 495. Senior Design Project** (3 cr) Parallel: Senior standing and CIVE 490.

Formulation and completion of a civil engineering design project.

**[IS] 495H. Honors: Senior Design Project** (3 cr) Prereq: Senior standing and good standing in the University Honors Program or by invitation.

Honor students required to study beyond levels expected of students in normal sections and prepare a special report.

**498/898. Special Topics in Civil Engineering** (1-6 cr) 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:** Stephen E. Reichenbach, 115 Ferguson Hall

**Chief Undergraduate Adviser:** Charles Riedesel

**Professors:** Bhattacharya, Deogun, Magliveras, Seth, Surkan

**Associate Professors:** Fayad, Henninger, Jiang, Kieckhafer, Reichenbach, Revesz, Samal

**Assistant Professors:** Choueiry, Elbaum, Goddard, Ramamurthy, Scott

**Research Assistant Professor:** Waltman

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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 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, and problem-solving and develop breadth of 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.

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 147.) 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, doctor of philosophy in computer science, doctor of philosophy in engineering, and a cooperative doctoral program with mathematics and statistics. See the *Graduate Studies Bulletin* for details.

## Requirements for the Degree of Bachelor of Science in Computer Engineering (Lincoln campus)

The computer engineering program requires courses in computer science and engineering (33 credit hours), electrical engineering (25 credit hours), mathematics (23 credit hours), and physics and chemistry (16 credit hours). Students select technical electives (12 credit hours) from a list maintained in the CSE Department office. Students must complete the

humanities and social science requirements of the College (18 credit hours), a technical writing course, and the College professional ethics course.

Semester 1	Credits
CHEM 109 General Chemistry I or 111 Chemistry for Engineering & Technology.....	4
CSCE 155 Intro to Computer Science I.....	4
MATH 106 Analytic Geometry & Calculus I.....	5
Humanity/Social Science Elective.....	3
ENGR 010 Freshman Engineering Seminar.....	0
	<b>16</b>

Semester 2	Credits
CSCE 156 Intro to Computer Science II.....	4
CSCE 230 Computer Organization.....	3
CSCE 230L Computer Organization Lab.....	1
CSCE 235 Discrete Structures.....	3
MATH 107 Analytic Geometry & Calculus II.....	5
	<b>16</b>

Semester 3	Credits
CSCE 251U Unix Programming.....	1
CSCE 251Y X-Windows Concepts & Programming.....	1
ELEC 215 Electronics & Circuits I.....	3
ELEC 233 Electronics & Circuits Lab I.....	1
ENGR 020 Sophomore Engineering Seminar.....	0
MATH 208 Analytic Geometry & Calculus III.....	4
PHYS 211 General Physics I.....	4
Humanity/Social Science Elective.....	3
	<b>17</b>

Semester 4	Credits
CSCE 310 Data Structures & Algorithms.....	3
ELEC 216 Electronics & Circuits II.....	3
ELEC 234 Electronics & Circuits Lab II.....	1
MATH 221 Differential Equations.....	3
PHYS 212 General Physics.....	4
Humanity/Social Science Elective.....	3
	<b>17</b>

Semester 5	Credits
CSCE 351 Operating System Kernels.....	3
ELEC 304 Continuous Time Signals & Systems.....	3
ELEC 316 Electronics & Circuits III.....	3
IMSE 321, STAT 380 or ELEC 410 Probability & Statistics.....	3
PHYS 213 General Physics.....	4
	<b>16</b>

Semester 6	Credits
CSCE 340 Numerical Analysis I.....	3
ELEC 362 Digital Electronics.....	3
ELEC 363 Digital Electronics Lab.....	1
ELEC 370 Digital Logic Design.....	3
IGEN 300 Technical Communication II.....	3
MATH 314 Applied Linear Algebra.....	3
	<b>16</b>

Semester 7	Credits
CSCE 430 Computer Architecture.....	3
CSCE 488 Computer Engineering Professional Development.....	1
ELEC 476 Intro to Digital System Design.....	3
Humanity/Social Science Elective.....	3
Technical Electives.....	6
	<b>16</b>

Semester 8	Credits
CSCE 489 Computer Engineering Senior Design Project.....	3
ELEC 492 Digital Systems Design Lab.....	1
ENGR 400 Professional Ethics.....	1
Humanity/Social Science Electives.....	6
Technical Electives.....	6
	<b>17</b>

### Total Credit Hours Required: 131

**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 complete a one hour knowledge-based multiple choice test.
2. 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.

## Courses of Instruction (CSCE)

**[ES] 101. Fundamentals of Computing** (3 cr) Lec 3. Will not count towards the requirements for a major or minor in computer science and computer engineering

Introduction to the breadth of computer science. Topics include hardware, software, networks, theory, and social issues. This is a course in the science of computation, suitable for non-majors and prospective majors.

**[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.

**110. Introduction to Data Processing** (3 cr) Lec 1. Credit can be given for only one of CSCE 110 and 252A. Credit cannot be given to computer science majors for CSCE 110; students with previous programming experience should consider CSCE 252A. Designed for students without a strong mathematics background. Introduction to computers and programming with emphasis on business and nonnumerical applications using COBOL (Common Business Oriented Language); introduction to computer technology and jargon; elementary COBOL programming; elements of problem analysis.

**150. Introduction to Computer Programming** (3 cr) Lec 3, lab 1. Prereq or coreq: MATH 103. Credit cannot be given for both CSCE 150 and any other introductory programming course in a high-level language. Students planning a major or minor in computer science or computer engineering should take CSCE 155 rather than CSCE 150. CSCE 150 is particularly appropriate for majors in science or engineering

Introduction to computers and problem-solving with computers including problem analysis and specification, algorithm development,

program design, and implementation in a high-level programming language. Laboratory assignments introduce advanced software developments, including operating systems and

develop mastery of a high-level programming language and good programming practices.

**[ES] 155. Introduction to Computer Science I** (4 cr) Lec 3, lab 1. Prereq: CSCE 101/101L and MATH 103 (or appropriate scores on placement exams). Introduction to problem-solving with computers including problem analysis and specification, algorithm development, program design, and implementation in a high-level programming language. Laboratory assignments introduce advanced software developments, including operating systems and

develop mastery of a high-level programming language and good programming practices.

**[ES] 155H. Honors: Introduction to Computer Science I** (4 cr) Lec 3, lab 1. Prereq: Good standing in the University Honors Program or by invitation; CSCE 101/101L and MATH 103 (or appropriate scores on placement exams).

Honors course covering same topics as CSCE 155 but in greater depth.

**[ES] 156. Introduction to Computer Science II** (4 cr) Lec 3, lab 1. Prereq: CSCE 155 and MATH 106 (or appropriate scores on placement exams).

Continued development of computer science and problem-solving with emphasis on abstraction and object-oriented programming. Problem analysis, specification, top-down design, and modularization. Strings, lists, stacks, queues, and other abstract data types. Linear and linked data structures, recursion, searching, and sorting. Exposure to performance analysis, correctness, application programmer interfaces, and software reuse. Lab assignments involve larger, more complex problems than CSCE 155, with emphasis on systematic development of systems of related software.

**[ES] 156H. Honors: Introduction to Computer Science II** (4 cr) Lec 3, lab 1. Prereq: Good standing in the University Honors Program or by invitation; CSCE 155 and MATH 106 (or appropriate scores on placement exams).

Honors course covering same topics as CSCE 156 but in greater depth.

**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) Coreq: CSCE 230L. Prereq: CSCE 150 or 155, or detailed knowledge of a high-level programming language. 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) Coreq: CSCE 230L. Prereq: Good standing in the University Honors Program or by invitation; CSCE 150 or 155, or detailed knowledge of a high-level programming language. Honors course covering same topics as CSCE 230 but in greater depth.

**230L. Computer Organization Laboratory** (1 cr) Lab 2. Coreq: CSCE 230. Prereq: CSCE 150 or 155. Computer aided tools to provide hands-on practice and reinforcement of concepts and techniques learned in CSCE 230. Assembler programming and arithmetic and logic function design.

**231. Assembly Language and Systems Programming** (3 cr) Prereq: CSCE 230 and 251U.

Computer programming at the assembly level. Interface between high- and low-level languages. Structure and design of basic systems software-assemblers, macro processors, device drivers, linker loaders, compilers and operating systems.

**[ES] 235. Introduction to Discrete Structures** (3 cr) Prereq: CSCE 155 and MATH 106.

Survey of elementary discrete mathematics. Set theory including relations and functions, elementary graph theory, number representation, recursion, induction and recurrence relations, complexity of algorithms, propositional logic, methods of proof, and elementary combinatorics.

**251K. C Programming** (1 cr) 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.

**251U. Unix Programming** (1 cr) 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.

**251Y. X-Windows Concepts and Programming** (1 cr) Prereq: CSCE 156 and 251U; or permission.

Introduction to X-windows: basic concepts, windows and window managers, graphics contexts, text, color, mouse, images, resource management and Xlib programming. Introduction to and programming with toolkits and widget classes. A hands-on course with emphasis on programming.

**252A. COBOL Programming** (1 cr) Prereq: Familiarity with one high-level programming language. *Intended only for experienced programmers*

Principles and practice of programming in the COBOL language.

**252D. FORTRAN Programming** (1 cr) Prereq: Familiarity with one high-level programming language. *Credit cannot be given for both CSCE 252D and any of CSCE 150, or ENGM 112, or ELEC 121.*

Principles and practice of FORTRAN programming.

**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.

**[IS] 310. Data Structures and Algorithms** (3 cr) Prereq: CSCE 156 and 235.

Review of lists, stacks, queues, and recursion. "Set" data type and hashing. Priority queues, file compression and Huffman codes. Binary trees, B-trees and searching algorithms. Graph algorithms, including shortest paths and minimum spanning trees. Sorting algorithms, including external sorting. String processing, geometric algorithms, and memory management.

**322. Programming Language Concepts** (3 cr) Prereq: CSCE 156 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: CSCE 150 or 155 and MATH 208. *Credit cannot be given for both CSCE 340 and ENGM 480.*

Algorithm formulation for the practical solution of problems such as interpolation, roots of equations, differentiation and integration. Includes analysis of effects of finite precision.

**351. Operating System Kernels** (3 cr) Prereq: CSCE 230, 230L, and 310.

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 with students implementing or extending an instructional operating system kernel.

**[IS] 378. Human-Computer Interaction** (3 cr) 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.

**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.

**410/810. Information Retrieval Systems** (3 cr) 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. Hands-on experience with a working experimental information retrieval system.

**413/813. Database Systems** (3 cr) Prereq: CSCE 310.

Data and storage models for database systems; entity/relationship, relational, hierarchical, and network models; hierarchical databases and their access operations. Network databases and their access operations. Relational databases; relational algebra and calculus; inquiry languages; normalization. Logical database design. Concurrency, integrity, and security issues. Distributed systems. Hands-on experience with a working database system.

**420/820. Language Structures** (3 cr) Prereq: CSCE 310.

Basic elements of programming language design and compiler writing. Grammars of Chomsky Hierarchy; regular sets and finite automata; lexical scanners, context-free grammars and their normal forms; pushdown automata; deterministic top-down and bottom-up parsing; simple precedence grammars; operator precedence grammars; syntax directed translation.

**[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.

**425/825. Compiler Construction** (3 cr) Prereq: CSCE 420.

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.

**427/827. Combinatorial Methods for Computer Science** (3 cr) Prereq: CSCE 310.

Models of computation, generating functions, recurrence relations, graphs and algorithms on graphs, Ramsey theory, applications of planar graphs to VLSI.

**428/828. Automata, Computation, and Formal Languages** (3 cr) 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.

**429/829. Parallel Algorithms and Programming** (3 cr) Prereq: CSCE 310 or permission.

Introduction to the fundamentals of parallel computation and applied algorithm design. Models of parallel computation; general techniques for designing efficient parallel algorithms for fixed-connection processor networks like arrays, trees and hypercube-like networks; elementary algorithms for parallel random access machines; principles and practice in programming an existing parallel machine.

**430/830. Computer Architecture** (3 cr) Prereq: CSCE 230, 231, 310, and parallel STAT 380/880 or ELEC 410/810; or permission. *Credit not applicable towards 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. Topics: 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) Prereq: CSCE 430, MATH 314, and MATH 380 or ELEC 410; or permission.

High performance computing in the context of a single processor, including the underlying principles and micro-architectures of contemporary high-performance processors. Assumes basic knowledge of pipelined scalar processors, and covers the Vector, Super-Scalar, and Very Long Instruction Word (VLIW) architectural paradigms. Numerous case studies of actual systems highlight real-world design trade-offs and amplify the theoretical discussions.

**433/833. Distributed and Multiprocessor Architectures** (3 cr) Prereq: CSCE 430, MATH 314, and (MATH 380 or ELEC 410) or permission.

Introduction to distributed and multiprocessor computer architectures. Addresses the principles of and relationship between the shared memory and the message passing MIMD architectural paradigms. Investigates the issues of design, implementation, application, and performance evaluation of MIMD architectures. Multiprocessor simulations, parallel programming, and case studies of commercially available machines to reinforce theoretical studies.

**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.

**441/841. Approximation of Functions** (MATH 441/841) (3 cr) 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) Prereq: CSCE 340, MATH 221 and 314. Numerical matrix methods and numerical solutions of ordinary differential equations.

**451/851. Operating Systems Principles** (3 cr) 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.

**452/852. Database Organization and Management** (MNGT 452/852) (3 cr) Prereq: For CBA and arts and sciences majors: MNGT/MIST 350, CSCE 150 (FORTRAN) and 252A (COBOL), or equivalent, or successful completion of MNGT 198D. College of Engineering and Technology majors: CSCE 150 (FORTRAN) and 252A (COBOL), or equivalent. *MNGT/MIST/CSCE 452/852 is not open to computer science majors who should register for CSCE 413/813 instead.* For course description, see MNGT 452/852.

**455/855. Distributed Operating Systems** (3 cr) Prereq: CSCE 451. 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. A substantial programming project in distributed systems.

**[IS] 461/861. Software Engineering** (3 cr) Prereq: CSCE 310 or permission. *Students will participate in group design and implementation of a software project.* Techniques used in the disciplined development of large software projects. Includes software requirements analysis and specifications, program design, coding and integration testing, and software maintenance. Software estimation techniques, design tools, and complexity metrics.

**462/862. Communication Networks** (3 cr) Prereq: STAT 380 or ELEC 410/810 and CSCE 430/830 or permission; CSCE 451/851 recommended. Introductory level course on the architecture of communication networks, and the rudiments of performance modeling. Includes circuit switching, packet switching, hybrid switching, protocols, local and metro area networks, elements of queuing theory and performance modeling, and network control. Advanced material spans broadband integrated digital networks, asynchronous transfer mode, fiber optic networks, and their performance studies.

**463/863. Introduction to Coding Theory** (3 cr) Prereq: CSCE 310; MATH 314/814 or equivalent. Introduction to the theory of Error Correcting Codes. Includes Binary symmetric channel, probability of error, finite fields, linear codes, parity check and generator matrices, standard array, maximum likelihood decoding, sphere packing, Plotkin and other bounds, Hamming codes, Perfect codes, BCH codes.

**465/865 (865T). Introduction to Mathematical Logic I** (MATH 465/865) (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 Godel's completeness theorem, the compactness theorem.

**466/866. Software Design Methodologies** (3 cr) Lec 3. Prereq: CSCE 310 or permission. Analysis and design for software systems development, including problem analysis, requirements specification, usability, software system models, maintenance and enhancement. Understanding of methodologies and skills in the practice of design, including design and integration within existing systems. Design of both functional and structural aspects of software that is of sufficient size and complexity as to require the efforts of several people for many months.

**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) Prereq: CSCE 231, 251Y, 310, MATH 314, or permission. 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.

**472/872. Computer Vision I** (3 cr) Prereq: CSCE 310 or permission. Low-level processing for computer vision with focus on data structures and algorithms. Computer-based techniques compared with biological systems for low-level (or early) vision. Includes image formation and restoration, edge-detection, region and texture analysis, coding, motion, and reconstruction.

**473/873. Computer Vision II** (3 cr) Prereq: CSCE 472/872 or permission. High-level processing for computer vision. Includes matching, segmentation, structure representation, picture description, knowledge-based systems, and active vision.

**[IS] 476/876. Introduction to Artificial Intelligence** (3 cr) 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) 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.

**479/879. Introduction to Neural Networks** (3 cr) Lec. 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.

**488. Computer Engineering Professional Development** (1 cr) Lec 2. Prereq: JGEN 200; ELEC 362, 476 and CSCE 430, or parallel each. *CSCE 488 is a preparation course for the computer engineering Senior Design Project (CSCE 489). CSCE 488 and 489 are a sequence of courses 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.

**[IS] 489. Computer Engineering Senior Design Project** (3 cr) Prereq: ELEC 362 and 476; CSCE 430 and \*488. *CSCE \*488 and \*489 must be taken in sequence. CSCE \*488 must be taken first and in the term previous to registering for CSCE \*489. Permission must be obtained to take the courses out of sequence. CSCE \*489 will use the team approach. All teams are given a broadly defined design problem containing aspects of both software and hardware design. Projects are of sufficient complexity as to require team members to partition and coordinate their efforts for successful completion. Written technical reports and oral presentations required.* Undertake a substantial design project.

**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.

**496/896. Special Topics in Computer Science** (1-3 cr per sem) 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.

## Department of Construction Management

**Interim Chair: W. Max Kirk**

**Associate Professors:** Harmon, Khattab, Kirk, Swoboda, Wright

**Assistant Professors:** Berryman, Stentz, Wentz

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, real estate law, 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)

Semester 1	Credits
CNST 131 Intro to Construction Industry.....	3
ENGL 151 English Composition.....	3
ENGR 010 Freshman Engineering Seminar.....	0
MATH 106 Calculus I.....	5
PHYS 151 General Physics.....	4
	15
Semester 2	Credits
CNST 112 Construction Communications.....	3
ENGR 020 Sophomore Engineering Seminar.....	0
GEOL 101 Physical Geology.....	4
PHIL 106 Philosophy.....	3
STAT 180 Elements of Statistics.....	3
Humanity/Social Science Elective.....	3
	16
Semester 3	Credits
ARCH 106 Environmental Studies.....	3
CIVE 252 Material Testing Lab.....	1
CNST 241 Construction Equip & Methods I.....	3
CNST 251 Construction Materials.....	2
ECON 210 Economics.....	5
ENGM 220 Statics.....	3
	17
Semester 4	Credits
CIVE 221 Surveying.....	3
CNST 242 Construction Equip & Methods II.....	3
CNST 252 Construction Specifications.....	3
ENGM 324 Strength of Materials.....	3
IMSE 206 Engineering Economy.....	3
JGEN 200 Technical Communications.....	3
	18
Semester 5	Credits
ACCT 306 Accounting.....	4
ARCH 331 Structural Design I.....	3
CNST 305 Physical Environmental Systems I.....	3
CNST 378 Construction Estimating I.....	3
MNGT 360 Managing Behavior in Organizations ...	3
	16

Semester 6	Credits
ARCH 332 Structural Design II.....	3
CNST 306 Physical Environmental Systems II.....	3
CNST 379 Construction Estimating II.....	3
COMM 311 Business & Industry Communications ..3	
FINA 361 Financial Management.....	3
Humanity/Social Science Elective <sup>20</sup> .....	3
Technical Elective .....	3
	18
Semester 7	Credits
CNST 430 Contract Administration.....	3
CNST 480 Productivity & Human Factors in Construction .....	3
CNST 485 Construction Project Scheduling & Control .....	3
Humanity/Social Science Elective .....	3
Technical Electives .....	3
	15
Semester 8	Credits
CNST 420 Professional Practice .....	3
CNST 476 Construction Cost Controls .....	3
CNST 490 Senior Construction Project .....	3
Construction Management Elective .....	3
Technical Elective .....	3
	15

**Total Credit Hours Required: 130**

## 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** (3 cr) Lec 3, lab 1. Parallel registration in CNST 112 recommended. Overview of the entire construction industry and an introduction of computer techniques and principles as they are applied in the construction industry. Includes basic management principles and practices used in the control of manpower, materials, machinery, and money in the production of the built-environment within a time framework.

**241. Construction Equipment and Methods I** (3 cr) Prereq: Sophomore standing; construction major; CNST 112 and 131; GEOL 101; parallel CNST 251. Survey of construction equipment and methods from a management point of view. Analytical approach to the development of construction methodology for site, excavation, and foundation work involving safe and economical mixes of manpower and machinery. Includes functions and applications of earthmoving and excavation equipment as well as pile drivers.

**[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.

**430. Contract Administration** (3 cr) Prereq: Senior standing in the department and CNST 242, 302. Construction industry business organization forms and their interaction through agency and independent contractor relationships. Analysis of the contract documents to define their basic elements and how they are applied in the construction industry.

**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. Construction Cost Controls** (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.

**480/880. Productivity and Human Factors in Construction** (3 cr) Prereq: Senior standing; CNST 242 and MNGT 360. Examine motivation and productivity improvement methods in the management of construction workers in their typical job environments along with methods to improve working environments in the field as well as the office. Various procedures and mechanisms to implement human behavior concepts for enhanced productivity and safety.

**485/885. Construction Project Scheduling and Control** (3 cr) Prereq: Senior standing; construction major or permission for non-construction majors; CNST 379; STAT 180 or equivalent.

**305. Physical Environmental Systems I** (3 cr) Lec 3. Prereq: MATH 106 and PHYS 151. Thermal and psychometric environment in buildings related to human comfort factors, heat loss/gain, ventilation and humidity calculations. Characteristics and performance of building systems. Review requirements for mechanical equipment and systems.

**306. Physical Environmental Systems II** (3 cr) Lec 3. Prereq: MATH 106 and PHYS 151. Fundamentals of electric power generation and distribution; service and circuits in buildings. Emphasis on electrical equipment and systems in buildings, lighting principles and applications, and fire protection systems. Review of National Electric Code.

**378. Construction Estimating I** (3 cr) Prereq: CNST 242 and 252. 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.

**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.

**398. Problems in Construction** (1-6 cr) Prereq: Construction major or permission for non-CNST majors; permission of chair.

Individual or group investigations of special problems in construction.

**405. Mechanical and Electrical 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 fields of mechanical systems, and electrical construction.

**[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.

**430. Contract Administration** (3 cr) Prereq: Senior standing in the department and CNST 242, 302. Construction industry business organization forms and their interaction through agency and independent contractor relationships. Analysis of the contract documents to define their basic elements and how they are applied in the construction industry.

**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. Construction Cost Controls** (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.

**480/880. Productivity and Human Factors in Construction** (3 cr) Prereq: Senior standing; CNST 242 and MNGT 360. Examine motivation and productivity improvement methods in the management of construction workers in their typical job environments along with methods to improve working environments in the field as well as the office. Various procedures and mechanisms to implement human behavior concepts for enhanced productivity and safety.

**485/885. Construction Project Scheduling and Control** (3 cr) Prereq: Senior standing; construction major or permission for non-construction majors; CNST 379; STAT 180 or equivalent.

- Of the 21-credit-hour total for elective courses, 9 credit hours shall be humanity/social science courses, and 9 credit hours shall be a technical elective course with an additional 3 credit hours taken as a construction management elective. One humanity/social science course must be taken from Historical Studies [ES-E] or Race, Ethnicity and Gender [ES-H] and one humanity/social science course must be taken from the Humanities [ES-F]. Additionally, two of the three humanity/social science courses must be IS courses.

Planning, scheduling, and controlling construction projects based on the critical path method (CPM). Construction applications of CPM network graphic variations as well as bar charts and program evaluation review techniques (PERT). Assessment of computer-aided scheduling and control systems. Emphasis on organizational restraints in all applications.

#### 486/886. Construction Management Systems (3 cr)

Prereq: STAT 180 or equivalent.

Application of selected topics in systems analysis (operations research) to construction management: competition strategy, linear programming, queueing, transportation, time-cost trade-off, learning curves, and other models. Computer applications.

#### [IS] 490. Senior Construction Project (3 cr) Lec 1, lab 6.

Prereq: Senior standing; CNST 379, 430, 480 and 485; or permission of department chair.

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.

## Department of Electrical Engineering

**Chair:** Rodney J. Soukup

**Professors:** Alexander, Bahar, Bandyopadhyay, Ianno, Narayanan, Nelson, Sayood, Soukup, Williams, Woollam

**Associate Professors:** Asgarpoor, Boye, Dillon, Hoffman, Palmer, Snyder, Throne, Vakilzadian, Varner

**Assistant Professor:** Perez

**Research Associate Professor:** Yao

**Research Assistant Professors:** Billesbach, Chen

**Senior Lecturers:** Balkir, Jorgensen

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 and Technology'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 and Technology 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:

- to 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 technologies;
- to provide students the opportunity to learn in some detail about a few specific areas of electrical engineering;
- to provide students the opportunity to apply the knowledge acquired in the classroom to the solution of practical electrical engineering problems;
- to provide students with experience in the technical processes and human interactions necessary to produce viable technological products;
- to encourage students to develop a positive interest in electrical engineering of the type which leads to life-long learning; and
- to provide students with the knowledge needed to function adeptly in society and to enlarge their interests beyond engineering.

## Requirements for the Degree of Bachelor of Science in Electrical Engineering

Semester 1	Credits
CHEM 109 General Chemistry I <sup>21</sup> .....	4
ELEC 121 Intro to Electrical Engineering I.....	3
ENGR 010 Freshman Engineering Seminar.....	0
MATH 106 Analytic Geometry & Calculus I.....	5
Humanity/Social Science Elective.....	3
	15
Semester 2	Credits
ALEC 102 Interpersonal Skills.....	3
ELEC 122 Intro to Electrical Engineering II.....	3
MATH 107 Analytic Geometry & Calculus II.....	5
PHYS 211 General Physics.....	4
Humanity/Social Science Elective.....	3
	18
Semester 3	Credits
ELEC 215 Electronics & Circuits I.....	3
ELEC 233 Introductory Electrical Lab I.....	1
ENGR 020 Sophomore Engineering Seminar.....	0
MATH 208 Analytic Geometry & Calculus III.....	4
PHYS 212 General Physics.....	4
PHYS 222 Physics Lab.....	1
Humanity/Social Science Elective.....	3
	16
Semester 4	Credits
ELEC 216 Electronics & Circuits II.....	3
ELEC 222 Intro to Embedded Systems.....	3
ELEC 234 Introductory Electrical Lab II.....	1
JGEN 200 Technical Communication <sup>22</sup> .....	3
MATH 221 Differential Equations for Engineers.....	3
PHYS 213 General Physics.....	4
	17

21. CHEM 109 is preferred, but CHEM 111 or 113 may be substituted.

22. JGEN 200 must be taken during the first or second year only. If it is not taken during the first two years, JGEN 300 (Technical Communication II) must be taken instead.

23. The approved computer programming electives are CSCE 150, 155, 156, 251K, 251U, 251Y, 252A, 252D, or 310.

24. The department has a list of approved technical electives.

Semester 5	Credits
ELEC 304 Signals & Systems.....	3
ELEC 306 Electromagnetic Field Theory.....	3
ELEC 307 Electrical Engineering Lab I.....	2
ELEC 316 Electronics & Circuits III.....	3
ELEC 370 Digital Logic Design.....	3
Computer Programming Elective <sup>23</sup> .....	3
	17

Semester 6	Credits
ELEC 305 Probability Theory & Intro to Random Processes.....	3
ELEC 317 Electrical Engineering Lab II.....	2
Technical Electives <sup>24</sup> .....	9
Humanity/Social Science Elective.....	3
	17

Semester 7	Credits
ELEC 494 Electrical Engineering Lab III.....	2
Technical Electives <sup>24</sup> .....	9
Humanity/Social Science Elective.....	3
	14

Semester 8	Credits
ELEC 495 Electrical Engineering Design Lab.....	3
Technical Electives <sup>24</sup> .....	9
Humanity/Social Science Elective.....	3
	15

**Total Credit Hours Required for Graduation:** ..... 129

## 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) 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.

**213. Electrical Circuits I** (3 cr) Prereq: MATH 107, ELEC 122, or permission. Introduction to electrical circuit theory. Kirchoff's laws, network topology, and circuit analysis theorems. Analysis of resistive circuits and computer solutions to circuits problems are emphasized. Inductors, capacitors and circuits containing these elements are studied.

**214. Electrical Circuits II** (3 cr) Prereq: ELEC 213. Sinusoidal steady-state analysis, phasor concepts, frequency response, power, rms values, resonance and magnetically coupled circuits are studied.

**215. Electronics and Circuits I** (3 cr) Prereq or parallel: MATH 208. Introduction to electrical engineering circuit theory and modern analog electronic circuits. Kirchhoff's laws and circuit analysis theorems applied to steady state dc resistive circuits, operational amplifier circuits, diode circuits, and bipolar junction transistor circuits. Modern computer methods employed.

**216. Electronics and Circuits II** (3 cr) Prereq: ELEC 215; prereq or parallel: MATH 221. Kirchhoff's laws and circuit analysis theorems applied to steady state field effect transistor circuits. Analysis of transient and sinusoidal steady-state circuits. Steady-state power calculations for sinusoidal single-phase and balanced three-phase circuits. Mutual inductance. Frequency response of passive circuits. Modern computer methods employed.

**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.

**233. Introductory Electrical Laboratory I** (1 cr) Prereq: ELEC 121 or CSCE 230; ELEC 213 or parallel. Laboratory work accompanying ELEC 213.

**234. Introductory Electrical Laboratory II** (1 cr) Prereq: ELEC 233. Prereq or parallel: ELEC 214 and 260. Laboratory work accompanying ELEC 214 and 260.

**260. Electronic Circuits I** (3 cr) Prereq or parallel: ELEC 214. Introduction to analysis and design of modern analog electronic circuits, diode circuits, bipolar and field effect transistors circuits, transistor amplifier circuits and operational amplifier circuits.

**298. Special Topics in Electrical Engineering II** (1-6 cr, max 6) Prereq: Permission. Offered as the need arises to treat electrical engineering topics for second-year students not covered in other courses.

**304. Signals and Systems I** (3 cr) Prereq: ELEC 214 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: MATH 221. 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 234. Prereq or parallel: ELEC 304 and 306. Laboratory work on circuits and systems, digital and analog electronic circuits, and electromagnetics.

**308. Electromagnetic Fields and Waves** (3 cr) Prereq: ELEC 306. Wave reflection and transmission, Poynting Theorem, Derivation of Waveguide Theory, transmission lines, Smith Chart, antennas and radiation, special topics.

**315. Principles of Semiconductor Devices** (3 cr) Prereq: PHYS 213. Fundamentals of semiconductor theory and their application to p-n junction devices and field-effect devices.

**316. Electronics and Circuits III** (3 cr) Prereq: ELEC 216 and PHYS 213. Frequency response of filters and amplifiers. Basic power amplifier types. Advanced operational amplifier circuits. Introduction to the fundamentals of semiconductor theory and their application to p-n junction and field devices.

[IS] **317. Electrical Engineering Laboratory II** (2 cr) Prereq: ELEC 307. Prereq or parallel: ELEC 305 and 308. Lab work on electromagnetic fields and waves, solid state devices, discrete systems, control systems, and communications.

**361. Electronic Circuits II** (3 cr) Prereq: ELEC 260. 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 260. Prereq or parallel: ELEC 306 and 315. Basic MOS and BiT 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. Hardware design experience.

**398. Special Topics in Electrical Engineering III** (1-6 cr, max 6) 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-locked 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 and 438/838. Economic evaluation, load forecasting, generation planning, transmission planning, production simulation, power plant reliability characteristics, and generation system reliability.

**410/810. Multivariate Random Processes** (3 cr) Prereq: ELEC 304 and 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: ELEC 315. Survey of fundamentals and applications of devices used for memory, logic, and display. Magnetic, superconductive, semiconductive, and dielectric materials.

**417/817. Integrated Circuits** (3 cr) Lec 2, lab 1. Prereq: ELEC 315. Integrated circuit technology with emphasis on the circuit realizability considerations of interest to the circuit designer. Detailed investigation of various aspects of fabrication technology. Laboratory work involves primarily design and fabrication of an integrated circuit.

**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. Solid State Physical Electronics** (3 cr) Prereq: ELEC 315. Fundamentals of various phenomena in solids. Includes superconducting, magnetic, dielectric and optoelectronic properties. Emission of electrons from solids.

**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.

**438/838. Introduction to Electric Power Engineering** (3 cr) Prereq: ELEC 306.

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 feed-back.

**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: Senior standing in engineering or permission.

Discrete system analysis using Z-transforms. Analysis and design of digital filters. Discrete Fourier transforms.

**464/864. Digital Communication Systems** (3 cr) Prereq: ELEC 410 and 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 410 and 462.

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 308.

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 308.

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 315 and 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 260 and 315.

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.

**476/876. Introduction to Digital System Design** (3 cr) Prereq: ELEC 370.

Synthesis using state machines; register transfer design; design of digital systems; timing analysis and avoiding timing problems; computer-aided tools for design and timing analysis.

**478/878. Microprocessor Hardware, Software, and Interfacing** (3 cr) Prereq: ELEC 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 476/876.

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 308. Prereq or parallel: ELEC 467/867.

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.

**488. Electrical Engineering Problems** (3 cr) Prereq:

Senior standing.

Information for understanding the modern engineering environment. Work ethics, safety, economics, environmental effects, working in a global environment, and contemporary issues.

**492. Digital Systems Design Laboratory** (1 cr) Prereq: ELEC 476.

Design of combinational and sequential circuits using MSI/LSI components; synthesis of fundamental-, clock-, and pulse-mode circuits; design of digital systems based on RTL and state machine descriptions; designs using the CAD tools.

**[IS] 494. Electrical Engineering Laboratory III** (2 cr) Lec 1, lab 3. Prereq: ELEC 317.

Project design and analysis laboratory. Projects of short duration, 2-3 weeks, on topics of the student's choice.

**[IS] 495. Electrical Engineering Design Laboratory** (3 cr) Lec 1, lab 6. Prereq: ELEC 494.

One-design project laboratory. Student conceives and designs some piece of electrical engineering equipment or component.

**498/898. Special Topics in Electrical Engineering IV** (1-6 cr, max 6) Prereq: Permission.

Offered as the need arises to treat 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.

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## Engineering

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### Courses of Instruction (ENGR)

**010. Freshman Engineering Seminar** (0 cr I) Open only to first year students in the College of Engineering and Technology. (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 and Technology. P/N 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. P/N only.

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum.

**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. P/N 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.

**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. P/N only.

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum.

**450. Work Periods for seniors.**


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## Department of Engineering Mechanics

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**Chair:** Millard F. Beatty

**Professors:** Chou, Pao

**Associate Professors:** DeLorm, Dzenis, Negahban, Wu

**Assistant Professors:** Baesu, Feng, Piltner, Safjan, Turner, Yang

The faculty of the Department of Engineering Mechanics at the University of Nebraska-Lincoln will deliver instructional programs of the highest quality in mechanics and other common core courses in engineering across all programs in the College of Engineering and Technology; 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 technology, 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 and Technology. 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.

**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, ceramic composites, and polymer melts and compounds) to these loading conditions. Time-resolved, stress wave profile measurements are obtained via a data acquisition system consisting of dynamic strain gauges, high-resolution digital oscilloscopes, PC workstation, and advanced control software. An occlusive optical detector is employed to measure the impact velocity of a projectile launched by a gas gun and to measure the specimen local deformation.

**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 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 press-clave 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.

## 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 150 or permission. 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 I, II) 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 Analysis** (3 cr I, II) Prereq: MATH 221/821. *Credit towards the degree cannot be earned in both ENGM 480 and MATH/CSCE 340.*

Application of numerical methods to the solution of engineering problems using computational software. Roots of algebraic and transcendental equations. Simultaneous algebraic equations—linear and non-linear, homogeneous and non-homogeneous. Curve fitting: polynomial, exponential, Fourier series, and cubic spline. Numerical integration and differentiation. Ordinary differential equations: initial and boundary value problems. Eigenvalue/eigenvector problems. Partial differential equations: elliptical, parabolic, and hyperbolic.

**491/891. Special Topics in Engineering Mechanics** (1-6 cr, max 6) 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.

**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 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:** Michael W. Riley

**Professors:** Ballard, Bishu, Choobineh, Cochran, Elias, Hoffman, Rajurkar, Riley

**Associate Professors:** Hallbeck, Williams

**Assistant Professors:** Adams, Savory

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 objectives are:

- to maintain and require graduates to complete a technically current curriculum that provides a balance of practical and intellectual experiences;
- to maintain an enthusiastic, motivated, knowledgeable faculty and modern educational facilities that provides students a challenging and rewarding learning experience;
- to solicit and study feedback from graduates of the program and employers of our graduates in order to measure our success in achieving our goal; and
- to continually evaluate our program with respect to nationally and internationally accepted standards of excellence including ABET's Criteria 2000, so that our program will remain outstanding.

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 175 Nebraska Hall. The laboratories, located in the Walter Scott Engineering Center, 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.

**Computer Integrated Manufacturing (CIM) Cell.** Equipped with a General Motors (GM) F six-axis robot, a GMF four-axis robot, a Bridgeport milling machine, a 14-position tool holder, belt conveyors, a computer that automatically loads part drawings into the milling machine for cutting and a GMF vision system, researchers working in this facility are integrating robot systems, milling systems and vision systems to produce parts economically.

**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.

**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 electrodischarge 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.

**Packaging Laboratory.** Researchers use equipment in this lab to test package designs and durability. Lab equipment includes a Lansmont Series 1800 TouchTest Vibration System used to make repeatable vibration tests in accordance with governmental and industry standards. For flat drop tests on a variety of package sizes and shapes, the lab is equipped with a Lansmont Precision Series PDT-56 Drop Tester. In addition, the lab is equipped with a Dallas Instruments VibKorder, a device that records four channels of vibration and transient shock waveform activity. It is a stand-alone, battery-powered unit that is shipped with or in packages and can record data for 72 days.

### Requirements for the Degree of Bachelor of Science in Industrial Engineering

Semester 1	Credits
CHEM 109 General Chemistry I or 111 Chemistry for Engineering & Tech.....	4
ENGR 010 Freshman Engineering Seminar .....	0
IMSE 150 Intro to Computers in Industrial Engineering .....	1
MATH 106 Analytic Geometry & Calculus I.....	5
MECH 130 Intro to CAD .....	2
Humanity/Social Science Elective.....	3
	15

Semester 2	Credits
CSCE 155 Intro to Computer Science I .....	3
MATH 107 Anal Geometry & Calculus II .....	5
PHYS/ASTR 211 General Physics .....	4
Humanity/Social Science Elective .....	3
	15

Semester 3	Credits
ELEC 211 Elements of Electrical Engineering .....	3
ELEC 231 Electrical Engineering Lab.....	1
ENGM 223 Engineering Statics.....	3
ENGR 020 Sophomore Engineering Seminar .....	0
IMSE 206 Engineering Economy I .....	3
MATH 208 Analytic Geometry & Calculus III .....	4
PHYS/ASTR 212 General Physics .....	4
	18

Semester 4	Credits
ENGM 325 Mechanics of Elastic Bodies.....	3
IMSE 328 Intro to Modeling in Industrial Engineering .....	3
IMSE 321 Applied Engineering Probability & Statistics .....	3
JGEN 200 Technical Communication I .....	3
MATH 221 Advanced Math for Engineers.....	3
METL 260 Elements of Materials Science .....	3
	18

Semester 5	Credits
ENGM 373 Engineering Dynamics .....	3
IMSE 305 Intro to Engineering Management .....	3
IMSE 315 Work Analysis & Measurement .....	3
IMSE 370 Manufacturing Methods & Processes.....	3
IMSE 422 Applied Statistical Analysis for Industrial Problems .....	3
IMSE 428 Principles of Operation Research .....	3
	18

Semester 6	Credits
COMM 311 Professional Communications .....	3
IMSE 375 Intro to Computer-Aided Mfg .....	3
IMSE 421 Industrial Quality Control.....	3
MECH 200 Thermodynamics I .....	3
Technical Elective <sup>25</sup> .....	3
Humanity/Social Science Elective .....	3
	18

Semester 7	Credits
IMSE 415 Ergonomics .....	3
IMSE 433 Production & Inventory Control I .....	3
IMSE 484 Industrial Systems Analysis .....	3
Humanity/Social Science Electives .....	6
Technical Elective <sup>25</sup> .....	3
	18

Semester 8	Credits
ENGR 400 Professional Ethics .....	1
IMSE 434 Facility Planning & Design .....	3
IMSE 445 Senior Engineering Project .....	3
Technical Electives <sup>25</sup> .....	6
Humanity/Social Science Elective .....	3
	16

**Total Credit Hours Required: 136**

### Courses of Instruction (IMSE)

**[ES] 150. Introduction to Computers in Industrial Engineering** (1 cr) Lab 3. Prereq: MATH 106 or parallel. Introduction to essential computing skills relevant to industrial engineering. Interpersonal computing fundamentals. Statistical software and symbolic mathematics package introduced.

**[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 [206x]. Engineering Economy I** (3 cr I, II, III) Prereq: Sophomore standing. Introduction to economic comparisons of engineering alternatives. Concepts of time value of money, methods of evaluating alternatives, depreciation, and taxes.

25. Technical electives selected from courses in engineering, mathematics, physics, and chemistry with approval of the student's adviser. Other courses by special permission of the Department of Industrial and Management Systems Engineering.

**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.

**305. Introduction to Engineering Management** (3 cr I) Prereq: IMSE 206. Intensive analysis of the specialized problems of engineering organization and the management of technical manpower. Design of procedures for the control of engineering projects and assignment of engineering manpower.

**[IS] 315. Work Analysis and Measurement** (3 cr I, II) Lec 2, lab 3. Prereq: Junior standing. Parallel: JGEN 200. Principles and techniques of work measurement, methods engineering, and work sampling. Basic ergonomics, including an introduction to anthropomorphic, biomechanics, and physiological measurement of work.

**[ES] 321. Applied Engineering Probability and Statistics** (3 cr I, II) Prereq: MATH 208. Introduction to the application of probabilistic and statistical techniques to the solution of engineering and industrial design problems.

**[ES] 328. Introduction to Modeling in Industrial Engineering** (3 cr) Prereq: IMSE 150. Coreq: IMSE 321. Emphasis on developing modeling skills for proper representation and analysis of industrial engineering problems, and on presentation techniques. Examples include operations research, classical industrial engineering and ergonomics problems.

**370. Manufacturing Methods and Processes** (MECH 370) (3 cr) Prereq: MTEL 260, 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.

**375. Introduction to Computer-Aided Manufacturing** (3 cr) Lec 2, lab 3. Prereq: IMSE 206, 370; MECH 130. Basic principles of computer-aided manufacturing including software and hardware of numerical control machines, robotics, and computer control of manufacturing processes and systems.

**399. Undergraduate Research** (1-6 cr I, II, III) Prereq: Permission. Engineering design or laboratory investigation that an undergraduate is qualified to take.

**401. Engineering Law** (3 cr) Prereq: Junior standing. Introduction to jurisprudence, civil procedure, contract, product liability, employment, real property, intellectual property, alternative dispute resolution, and other fields of law relevant to the engineering profession.

**405/805. Analysis of Engineering Management** (3 cr) Prereq: IMSE 206. General concepts and principles of engineering management applied to cases.

**[ES] 406/806. Engineering Economy II** (3 cr) Prereq: IMSE 206 and 321, or MATH 380. Extension of basic concepts of engineering economy and managerial economics to decision making under risk and uncertainty.

**412/812. Occupational Safety-A Systems Analysis** (3 cr) Prereq: IMSE 321. Analysis of safety performance, attribution of cost, identification and analysis of accident potential. Fault Tree analysis. Systems safety and reliability.

**[IS] 415/815. Ergonomics I** (3 cr) Lec 2, lab 3. Prereq: IMSE 422 or permission. Human factors affecting work. Focus on humans: energy requirements, lighting, noise, monotony and fatigue, learning, simultaneous vs. sequential tasks. Experimental evaluation of concepts.

**[IS] 416/816. Ergonomics II** (3 cr) Lec 2, lab 3. Prereq: IMSE 422 or permission. Human performance in work. Focus on human's 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. Industrial Quality Control** (3 cr II) Prereq: IMSE 321. Statistical process control and quality assurance techniques in manufacturing including control charts, acceptance sampling, and analyses and design of quality control systems.

**[ES] 422/822. Applied Statistical Analysis for Industrial Problems** (3 cr I, II) Prereq: IMSE 321 or MATH 380; MATH 314 or IMSE 328. Applications of curve-fitting techniques, analysis of variance, and design of experiments for industrial processes.

**[ES] 428/828. Principles of Operations Research** (3 cr) Prereq: IMSE 321 or STAT 380/880; IMSE 328 or MATH 314/814. Introduction to the techniques and applications of operations research. Includes linear programming, queuing theory, decision analysis, network analysis, and simulation.

**[ES] 429/829. Applied Linear Models in Operations Research** (3 cr) Prereq: IMSE 428/828 or equivalent. Formulation and modeling of industrial problems by linear optimization techniques, including: linear programming, integer programming, transportation and assignment models, and network flow models. Use of algorithm-oriented solution procedures.

**[ES] 430/830. Stochastic and Nonlinear Models in Operations Research** (3 cr) Prereq: IMSE 428/828 or equivalent. Formulation and modeling of industrial problems using nonlinear and stochastic techniques, including: nonlinear and dynamic programming, Markovian decision processes, queuing theory, and reliability theory.

**433. Production and Inventory Control** (3 cr I) Prereq: IMSE 206, 428. Principles and techniques applied to production planning, scheduling, inventory control, and forecasting.

**434. Facility Planning and Design** (3 cr II) Prereq: IMSE 315, 321. Parallel: IMSE 375. Analysis and design of industrial and service facilities. Includes problems related to plant location, material handling and storage, office design, and plant services.

**[IS] 445. Senior Engineering Project** (3 cr I, II) Lec 1, lab 6. Prereq: Senior standing. Prereq or parallel: IMSE 415, 421, 433, 434, 484. Execution of a design project. Integrating concepts of facility 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.

**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. Computers in Manufacturing** (3 cr) Lec 2, lab 3. Prereq: ELEC 231. Interfacing issues; data acquisition; A/D-D/A conversions; sensors and sensor-based computing; control systems and adaptive control; and real time control of mechanical devices.

**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.

**483/883. Production and Inventory Control II** (3 cr) Prereq: IMSE 433. Deterministic and probabilistic inventory models. Introduction to the theory of sequencing and scheduling.

**484/884. Industrial Systems Analysis I** (3 cr I) Lec 2, lab 3. Prereq: IMSE 321, 428/828, or permission. Analysis of technologically based systems and problems using digital simulation with emphasis on the construction of simulation models and on the use of special purpose simulation languages with applications for industrial systems.

**498/898. Laboratory Investigation** (1-6 cr I, II, III)

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

**Chair:** David Y. S. Lou

**Professors:** Lou, Olson, Peters, To

**Associate Professors:** Arnold, Barton, Cole, Gogos, Reid, Robertson, Rohde, Schade, Szydlowski, Weins

**Assistant Professors:** Farritor, Homan

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: materials science engineering, thermal-fluid science engineering, and systems and design 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 demonstration of and experimentation on the basic concepts of fluid flow and energy conver-

sion. Included in the available equipment are 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)

Semester 1	Credits
CHEM 111 Chemistry for Engineering & Technology <sup>26</sup>	4
ENGR 010 Freshmen Engineering Seminar	0
MATH 106 Analytic Geometry & Calculus I	5
MECH 100 Intro to Mechanical Engineering	1
Humanity/Social Science Electives	6
	<b>16</b>
Semester 2	Credits
MATH 107 Analytic Geometry & Calculus II	5
MECH 130 Intro to CAD	2
PHYS/ASTR 211 General Physics	4
PHYS/ASTR 220 Classical Physics Lab <sup>27</sup>	1
Humanity/Social Science Elective	3
	<b>*15</b>
Semester 3	Credits
ENGM 223 Engineering Statics <sup>28</sup>	3
ENGR 020 Sophomore Engineering Seminar	0
IMSE 206 Engineering Economy I	3
MATH 208 Analytic Geometry & Calculus III	4
PHYS/ASTR 212 General Physics	4
Computer Programming Elective	3
	<b>**17</b>
Semester 4	Credits
ENGM 325 Mechanics of Elastic Bodies	3
ENGM 373 Engineering Dynamics	3
MATH 221 Differential Equations for Engrs	3
MECH 200 Thermodynamics I	3
METL 360 Elements of Materials Science	4
	<b>16</b>
Semester 5	Credits
JGEN 300 Technical Communication II	3
ELEC 211 Elements of Electrical Engineering	3
ELEC 231 Electrical Engineering Lab	1
MECH 310 Fluid Mechanics	3
MECH 330 Mechanical Engineering Analysis	3
MECH 342 Kinematics & Dynamics of Machinery	3
	<b>16</b>
Semester 6	Credits
IMSE 321 Applied Engineering Probabilities & Stats	3
MECH 300 Thermodynamics II	3
MECH 343 Elements of Machine Design	3
MECH 350 Intro to Dynamics & Control of Engineering Systems	3
MECH 480 Mechanical Engineering Lab I	3
Communication Studies Elective <sup>29</sup>	3
	<b>18</b>
Semester 7	Credits
MECH 370 Manufacturing Methods & Processes	3
MECH 420 Heat Transfer	3
MECH 446 Mechanical Engineering Design I <sup>30</sup>	3
MECH 488 Kinematics & Machine Design Lab	1
Mechanical Engineering Design Elective <sup>31</sup>	3
Technical Elective <sup>32</sup>	3
	<b>16</b>

Semester 8	Credits
ENGR 400 Professional Ethics	1
MECH 447 Mechanical Engineering Design II	2
MECH 487 Mechanical Engineering Lab II	2
Humanity/Social Science Electives	6
Mechanical Engineering Design Elective <sup>31</sup>	3
Technical Elective <sup>32</sup>	3
	<b>17</b>

### Total Credit Hours Required: 131

\* Total 14 – if PHYS/ASTR 222 is taken in Semester 3.

\*\* Total 18 – if PHYS/ASTR 222 is taken in Semester 3.

## 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 or I, II) 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) Prereq: MECH 100 for mechanical engineering majors; none for others. 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. Thermodynamics I** (3 cr I, II, III) Prereq: 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.

**200H. Honors: Thermodynamics I** (3 cr II) Prereq: Good standing in the University Honors Program or by invitation; MATH 107, PHYS 212, CHEM 109, 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. Thermodynamics II** (3 cr I, II) Prereq: MECH 200. Prereq or parallel: MECH 310. 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, III) Prereq: ENGM 373, MATH 221. Parallel: MECH 200 or permission. 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 I, II) Lab 2. Prereq or parallel: MECH 310. 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 I, II) Prereq: MATH 221, CSCE 252D, 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.

26. CHEM 109 and 110 may be substituted for CHEM 111. Only 4 credits count toward graduation.

27. Or, instead, PHYS/ASTR 222 Physics Lab (1 cr) may be taken in Semester 3.

28. Mechanical engineering students must take MECH 100 before ENGM 223.

29. Choose one course from the following: COMM 211, 220, 280, 371, or 380. This course will count as a humanity/social science elective (Area I).

30. 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).

31. Design electives must be chosen from lists maintained in the Mechanical Engineering Department Office. Consult your adviser for the lists and suggested choices.

32. Technical electives are to be chosen from lists maintained in the Mechanical Engineering Department Office. One technical elective must be in an approved mechanical engineering or metallurgical engineering course. Consult your adviser for the lists and suggested choices.

**[ES] 342. Kinematics and Dynamics of Machinery** (3 cr I, II, III) Lec 3. Prereq: MECH 130, ENGM 373. Analysis of the motions of linkage and cam mechanisms. Methods of design of linkage and cam mechanisms. Gear theory. 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 300, MECH 342, METL 360. Prereq or parallel: IMSE 321 or STAT 380. 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 I, II) Lec 3. Prereq: MECH 330 or permission, ENGM 373, ELEC 211. 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** (IMSE 370) (3 cr I, II) For course description, see IMSE 370.

**401. Mechanical Engineering Laboratory** (1 cr I, II) Prereq: MECH 300, 311, 480. Prereq or parallel: MECH 420. Design, execution, and evaluation of physical experiments in the thermodynamics/heat transfer area.

**402/802. Turbomachinery** (3 cr I, II) Lec 3. Prereq: MECH 300, 310. Basic understanding of the thermodynamic analysis and design of axial and radial flow turbines, compressors, and pumps. Fundamentals of the operating characteristics and performance parameters of turbomachines will be evaluated. Cavitation and blade element theory.

**403/803. Internal Combustion Engines** (3 cr I, II) 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 II) Lec 3. Prereq: MECH 300, 420, or permission. 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 I, II) 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 I, II) 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 I, II) 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. Hands-on exercises in actual design tasks.

**413/813. Aerodynamics** (3 cr I) Lec 3. Prereq: MECH 200, 310. Subsonic and supersonic air flow theory, dynamics of flight, performance parameters, rotoranalysis, and special topics.

**414/814. Compressible Flow** (3 cr II) Lec 3. Prereq: MECH 300, 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 I) Lec 2, lab 3. Prereq or parallel: MECH 310, 311, 480. 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.

**[ES] 420/820. Heat Transfer** (3 cr I, II) Lec 3. Prereq: MECH 310, 330. Heat transfer by conduction, convection, and radiation. Correlation of theory with experimental data and engineering design.

**431/831. Finite Difference and Finite Element Methods in Mechanical Engineering** (3 cr II) Lec 3. Prereq: MECH 310 and 330; MECH 420 or parallel or permission. Finite difference methods for static and transient heat conduction and convection-diffusion problems. Finite element methods for heat conduction and solid mechanics. Relationships between finite difference and finite element techniques.

**442/842. Intermediate Kinematics** (3 cr I) 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 I, II) Lec 3. Prereq: MECH 342, 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 I) Lec 2, lab 3. Prereq: MECH 200, 310, 342, 350. Development of design concepts. Introduction to synthesis techniques and mathematical analysis methods. Applications of these techniques to mechanical engineering design projects.

**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.

**[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 II) 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 I) Lec 2, lab 3. Prereq: MECH 450, or permission. 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 I, II) 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 2, lab 3. Prereq: MECH 343 and 350. Basic mechanics governing vehicle dynamic performance. Analytical methods in vehicle dynamics. Laboratory work performing various vehicle dynamic tests on actual vehicles. A term project consists of designing and building an SAE competition vehicle.

**[IS] 480. Mechanical Engineering Laboratory I** (3 cr I, II) Lec 2, lab 2. Prereq: ELEC 231, JGEN 300, MECH 310, IMSE 321 or STAT 380 or parallel, MECH 350 or parallel. Theory, statistics, applications, and design of mechanical engineering experiments.

**481/881. Introduction to Nuclear Engineering** (3 cr I, II) Lec 3. Prereq: MATH 220 or 221. Introduction to nuclear physics, radiation interaction with matter, reactor fundamentals, and the application of equipment and principles associated with reactor safety and operations.

**486/886. Applied Photonics** (3 cr I) Lec 2, lab 1. Prereq: ELEC 308 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] 487. Mechanical Engineering Laboratory II** (2 cr I, II) Lab 4. Prereq: MECH 300 and 480; 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** (1 cr I, II) Lab 3. Prereq: MECH 342 and 343. 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 materials 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. Prereq or parallel: PHYS 212, ENGM 223. 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, III) Lec 3, lab 2. Prereq: CHEM 109, ENGM 223. Concepts of atomic, molecular, and crystal structure of metals, alloys, polymers, and ceramics. Fundamental concepts applied to design and optimization problems.

**460/860. Mechanical Aspects of Materials** (3 cr I) Lec 3. Prereq: ENGM 325, METL 360 or ENGM 335 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 II) 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 I) 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 I) 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 II) Lec 2, lab 3. Prereq: MECH 200; ENGM 325; METL 360 or ENGM 335, 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 I, II, III) Lec 2, lab 2. Prereq: ENGM 325; METL 360 or ENGM 335 or equivalent.

Metalurgical 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 Science** (3 cr I, II) Lec 3.

Prereq: PHYS 212.

In-depth development of the principles controlling the formation of the structure of engineering materials. Includes phase diagrams, diffusion, interfaces and microstructures, solidification and diffusional transformation and diffusionless transformations.

**470/870. Thermodynamics of Alloys** (3 cr II) Lec 3.

Prereq: METL 360 or equivalent; 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 I) Prereq: METL 360 or equivalent, and 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 II) 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 II) Lec 3. Prereq: METL 360 or equivalent; MECH 212 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 I, II, III)

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:

JGEN 200 or 300 (3 cr)

Computer Science elective (3 cr)

CSCE 150 or 155

Oral Communication elective (3 cr)

ALEC 102 or COMM 109 or 311

ENGR 400 (1 cr)

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 213/233

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:** James L. Hendrix, Ph.D.

**Associate Dean:** Paul A. Seaburg, Ph.D., P.E.

## 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:** Grenville Yuill

**Professor:** Yuill

**Associate Professors:** Liu, Tiller

**Assistant Professors:** Henze, Houser, Musser

The architectural engineering undergraduate program is new. The first class of students enrolled in the fall semester of 1998. It is a four-year program requiring 124 credit hours. A one-year masters degree program of 36 credits is also being developed.

Architectural engineering is the engineering design of buildings. Students have the option to specialize in the design of building structural systems, building mechanical 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. 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 two courses and a laboratory in each of the three areas of specialization. The depth is provided in the 7th and 8th semesters, where the students concentrate in one of the three option areas.

The final year of the AE program features a two-semester 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 be encouraged to work in teams to complete a significant building design in a manner which closely simulates professional practice.

It is intended that the four-year undergraduate program will be followed by a one-year masters degree based on course work only. This fifth year is now under development. It will continue the specialized education in each of the three option areas, and will provide an introduction to some of the business management topics that architectural engineers will need later in their careers.

**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 can easily arrange their programs of study so that they can spend the first two years of the architectural engineering program on the Lincoln campus without loss of time. Those wishing to do so should consult the architectural engineering curriculum in the UNOmaha Bulletin, and should consult with the program director, Dr. Yuill, by phone at (402) 554-3859, or by email at <yuill@unomaha.edu>.

Please consult the University of Nebraska at Omaha Undergraduate Catalog or <www.unomaha.edu/> for curriculum details.

## Pre-Architectural Engineering

Semester 1	Credits
ARCH 106 Intro to Design .....	3
CHEM 109 General Chemistry I .....	4
CIVE 112 Intro to Civil Engineering .....	1
MATH 106 Calculus I .....	5
MECH 130 Computer Aided Design .....	2
	15
Semester 2	Credits
COMM 209 Intro to Public Speaking .....	3
CSCE 155 Intro to Computer Science & Engr .....	3
MATH 107 Calculus II .....	5
PHYS 211 Engineering Physics I .....	4
PHYS 220 Engineering Physics I Lab .....	1
	16
Semester 3	Credits
ARCH 210 Basic Design I .....	3
ENGM 223 Statics .....	3
ELEC 211 Elements of Electrical Engineering .....	3
MATH 208 Calculus III .....	4
PHYS 212 Engineering Physics II .....	4
	17
Semester 4	Credits
CIVE 370 Mechanics of Materials Lab .....	1
ENGM 325 Mechanics of Elastic Bodies .....	3
ENGM 373 Engineering Dynamics .....	3
MATH 221 Differential Equations for Engrs .....	3
MECH 200 Thermodynamics .....	3
PSYC 181 Intro to Psychology .....	4
	17

- 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:
- ARCH 240  
CIVE 341, 441  
IMSE 321 or STAT 380  
JGEN 200 or 300  
MECH 310

## Department of Civil Engineering

**Co-chair:** Mohamed F. Dahab - Lincoln

**Co-chair:** Raymond K. Moore - Omaha

**Professors:** Benak, Bogardi, Dahab, McCoy, Moore, Seaburg, Sherrard, Tadros

**Associate Professors:** Azizinamini, Dvorak, Krause, Moussavi, Rohde, Rosson, Sicking, Sneddon, Tuan, Zhang

**Assistant Professors:** Admiraal, Bakker, Jones, Rizos, Stansbury

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 233 under the Lincoln Campus section for descriptions, or consult the University of Nebraska at Omaha Undergraduate Catalog or <www.unomaha.edu/> for curriculum details.

## Department of Computer and Electronics Engineering

**Interim Chair:** Bing Chen

**Professors:** Chen, Sedlacek

**Associate Professors:** Kulik, Sash, Sharif-Kashani

**Assistant Professors:** Jang, Nguyen, Park

**Courtesy Appointment:** Narayanan, Sayood

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 bachelor of science degree in computer engineering requires 133 credit hours of course work. 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 133-credit-hour program in electronics engineering leads to the bachelor of science degree in electronics engineering. 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 should 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. 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 University bulletin 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. Three credit hours of free electives must be from a non-electrical/computer engineering program which will satisfy the engineering breadth requirement. 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 and the Special Topics in Computer and Electronics Engineering courses at the appropriate academic level. Individual Study in Computer and Electronics Engineering courses are offered for the student who may wish to develop a topic under the guidance of a department faculty member. The Special Topics in Computer and Electronics Engineering courses are 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.unomaha.edu/](http://www.unomaha.edu/)> for curriculum details.

## School of Engineering Technology

The School of Engineering Technology on the Omaha Campus is comprised of the following departments:

- Construction Systems Technology
- Industrial Systems Technology

In line with a rapidly growing national trend, the School of Engineering Technology offers programs leading to associate and bachelor degrees in engineering technology. These programs are based on a foundation of natural science and mathematics. This is followed by an intensive curriculum of technology courses which prepare the graduate for a professional career within the specific area of the graduate's major field of study. These programs emphasize a solid understanding and practical application of scientific and engineering knowledge and methods.

The bachelor of science in engineering technology degree may be obtained in construction and manufacturing. Also available is a bachelor of science degree in industrial technology. An associate degree in manufacturing engineering technology and fire protection are available in the School.

## Pre-Engineering Technology

Pre-engineering technology programs are available to students on the Lincoln campus. Students would need to transfer to Omaha to complete the remainder of their program.

## Requirements for Degrees in the School of Engineering Technology

1. High school transcripts are required of **all** students including those transferring from colleges within the University of Nebraska system. Students wishing to enter the engineering technology programs who **do not** meet the listed entrance requirements for admission may be considered for entrance as restricted students. Accepted restricted students have one semester to make up their deficiencies. Each technology curriculum requires the following high school units:
  - 4 units English (speech and journalism excluded)
  - 2 units algebra
  - 1 unit geometry
  - 3 units science (physics and chemistry preferred)
2. Official transcripts are required from all institutions of higher education previously attended. A minimum grade point average of 2.5 from the last institution of higher education attended is required for admission to

33. MATH 107 (For students with an adequate background in mathematics, MATH 107 should be taken subsequent to MATH 106, substituting the credit hours for the mover elementary 101 and 102 requirements)

34. PHYS 211, 220, 212, 222 (For students with an adequate background in mathematics, the 200-level calculus-based physics should be taken in lieu of 141 and 142; STAT 180 in lieu of CNST 282; ENGM 111, 112 in lieu of CNST 101 and 281; ENGL 118 in lieu of 150; COMM 209 or 210 or 311 in lieu of 109; ARCH 218 in lieu of CNST 281.)

engineering technology courses. Exception: a minimum grade point average of 2.0 is required for transfer from another college in the University of Nebraska system.

3. A composite ACT score of 20 or SAT (verbal + math) of 950.
4. Former School of Engineering Technology students desiring to be readmitted must have a minimum GPA of 2.00.

## Pre-Construction Engineering Technology (CET)

Students on the Lincoln campus may begin their course work leading to a bachelor of science in engineering technology degree, with a major in construction engineering technology. The four year degree must be completed on the Omaha (UNO) campus. A suggested sequence for the first two years of study is as follows:

Semester 1	Credits
COMM 109 Fund of Human Communication .....	3
CNST 101 Construction Communications I .....	2
ENGL 150 Composition.....	3
MATH 101 Algebra <sup>33</sup> .....	2
MATH 102 Trigonometry <sup>33</sup> .....	2
Humanity/Social Science Electives.....	6
	<b>18</b>

Semester 2	Credits
CNST 102 Construction Communications II .....	2
CNST 131 Intro to the Construction Industry.....	3
CNST 281 Computer Application in Construction I..	3
GEOL 101 Physical Geology.....	3
GEOL 102 Geology Lab .....	1
IGEN 200 Technical Communication I .....	3
Humanity/Social Science Elective .....	3
	<b>18</b>

Semester 3	Credits
CNST 241 Construction Equip & Methods I .....	3
CNST 301 Construction Materials & Spec I.....	2
CNST 398 Problems in Construction .....	1
MATH 106 Analytic Geometry & Calculus I <sup>34</sup> .....	5
PHYS 141 Elementary General Physics.....	5
	<b>16</b>

Semester 4	Credits
CIVE 221 Surveying I .....	3
CNST 242 Construction Equip & Methods II .....	3
CNST 282 Statistical Analysis for Construction.....	3
CNST 302 Construction Specifications .....	2
ENGM 399 Undergraduate Research & Thesis .....	1
PHYS 142 Elementary General Physics <sup>34</sup> .....	5
	<b>17</b>

The suggested schedule above is intended for those entering the University without previous course work in the indicated areas. Students with college/university transfer credits should contact the Chair of the Department of Construction Systems Technology (402) 554-2497 on the Omaha (UNO) Campus.

## Additional advanced courses that will transfer:

- ARCH 410, 411
- CIVE 334, 422, 444, 443, 436
- CNST 305, 306, 378, 379, 420, 430, 480, 481
- ENGM 220, 324, 325,
- IMSE 206

## Pre-Manufacturing Engineering Technology and Industrial Technology

Semester 1	Credits
CHEM 111 Chemistry for Engr & Tech.....	4
ENGL 151 Composition II .....	3
MATH 103 College Algebra & Trigonometry .....	5
MATH 180 Elements of Statistics.....	3
MECH 130 Intro to CAD.....	2
	17
Semester 2	Credits
COMM 109 Fund of Human Communication.....	3
CSCE 150 Intro to FORTRAN Programming.....	3
MATH 106 Analytic Geometry & Calculus I .....	5
PHYS 141 Elementary General Physics.....	5
	16
Semester 3	Credits
IMSE 206 Engineering Economy I .....	3
JGEN 200 Technical Communication I .....	3
PHYS 142 Elementary General Physics.....	5
Approved Social Science Electives <sup>35</sup> .....	6
	17
Semester 4	Credits
ACCT 201 Introductory Accounting .....	3
ANTH 351 Peoples & Cultures of Native North America or ANTH 362 Peoples & Cultures of Africa.....	3
COMM 311 Business & Professional Communication.....	3
ENGL 210 Themes in Literature .....	3
Approved Humanity Elective <sup>35</sup> .....	3
	15

### NOTES

- Early transfer to the Omaha Campus is suggested in order to avoid protracted extension of the time required to complete the baccalaureate degree.
- The suggested schedule above is intended for those entering the University without previous course work in the indicated areas. Students with college/university transfer credits should contact the Chair of the Department of Industrial Systems Technology (402) 554-2531 on the Omaha (UNO) Campus.

## Construction Systems Technology

**Chair:** Maher Tadros  
**Professors:** Sires, Sokol  
**Associate Professors:** Cook, Foster, Goedert, Haggan, Holmes  
**Assistant Professor:** Pedersen  
**Senior Lecturer:** Brenneman

## Construction Engineering Technology Program (CET)

The objective of the construction engineering technology program is to educate professionals in the various aspects of construction from conception to completion for responsible positions in the general or specialty construction disciplines.

With the increasing demand for construction services in all avenues of business, the construction industry is continually increasing its technological capabilities. This demand has given the construction engineering technology graduate

an unprecedented number of opportunities for employment for the general and the specialty contractors.

Construction is essentially a service industry whose responsibility is to convert the plans and specifications prepared by engineers and architects into a finished project, whether it be a building, bridge, highway, power plant or other constructed facilities.

The construction of these projects involves thousands of details and a team effort on the part of the owners, architects, engineers, general contractors, specialty contractors, manufacturers, material suppliers, equipment distributors, governmental bodies and agencies, labor, and numerous others. It is the contractor who assumes responsibility for delivery of the completed project at a specified time and cost. In so doing, he/she accepts the challenge as well as the legal, financial, and management obligations associated with the project.

The construction engineering technology program is designed for individuals wishing to specialize in the technological and applied aspects of building construction, mechanical/electrical construction, or heavy construction. Construction engineering technology courses concentrate on the application of engineering principles and practices to solve the real problems in the construction industry.

The construction engineering technology major is required to enroll into a predetermined set of courses specifically designed for the general construction education of all students. Each student is then required to select, with the approval of his/her adviser, a set of approved technical electives that are developed for various types of construction by the end of the fourth semester.

The 133 credit-hour program leads to the bachelor of science degree in engineering technology, with the major option of construction engineering technology. The required graphic electives, skill and method electives, and design electives follow the general program listing.

The construction engineering technology curriculum is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD, 21202. Phone (410) 347-7700.

Please consult the University of Nebraska at Omaha Undergraduate Catalog or <[www.unomaha.edu/](http://www.unomaha.edu/)> for curriculum details.

## Fire Protection Technology (FPT) Program

The 72-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 Technology and the UNL Division of Continuing Studies.

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 <[www.unomaha.edu/](http://www.unomaha.edu/)> for curriculum details.

## Electronics Engineering Technology

The electronics engineering technology is being phased out. Persons who wish to complete this degree program and have completed part of the required course work or those who have transfer credit applicable to the degree should contact the chairperson of the Computer and Electronics Engineering department. For EET curriculum details, please refer to earlier UNL Undergraduate Bulletins.

## Industrial Systems Technology Department

**Chair:** John S. Thorp

**Professor:** Merkel

**Associate Professors:** Bonsell, Buhman, Schwer, Thorp

**Assistant Professor:** Morse

### Options:

- Industrial Technology
- Manufacturing Engineering Technology

### Requirements for the Degree of Bachelor of Science in Industrial Technology (IT)

#### (Omaha Campus)

A degree of bachelor of science in industrial technology is awarded upon completion of the four-year program outlined below. The degree offers a variety of career leadership opportunities in industry. The curriculum is designed to prepare the industrial technologist to become associated with technical, supervisory, and managerial activities in the industrial field. Graduates are oriented to management as well as technology in their approaches toward technical, scientific, or human relations problems. Graduates find numerous career opportunities in the various divisions of business and industry.

The program has six technical specialty options: aviation, chemistry, computer science, construction, facilities, and manufacturing. In addition, with departmental guidance and approval, students may develop a technical specialty in an area specific to their needs. The outline that follows is a general guide. Specific courses, credit hours, and sequences will vary slightly between specialties. Students are required to select and declare their specialty to their assigned adviser. A list of the written specialty requirements is available in the Industrial Systems Technology office.

### Program Changes, Academic Standards and Revisions

It should be noted that the program that follows is subject to continuing changes and revisions. In addition, the department insists on high standards of academic performance by its students. As part of this standard, a grade of "C" or higher is required in all courses credited toward degree requirements except under approved cultural diversity electives and approved humanistic and social science electives. No preparatory and/or remedial course work will count toward fulfillment of degree requirements. In addition, each student must meet general

education requirements of the university campus upon which their program of study resides. To obtain the most current approved listing of program courses, academic standards and requirements, interested persons should consult an academic adviser or the chairman of the Industrial Systems Technology Department.

### **Requirements for the Degree of Bachelor of Science in Manufacturing Engineering Technology (MET)**

#### **(Omaha Campus)**

This 133-semester-hour program leads to the degree of bachelor of science in engineering technology with a major option in manufacturing engineering technology. Also offered is an associate of science in engineering technology degree upon completion of the first two years of listed course work. This associate of science degree may be pursued as either a two-year terminal degree or a significant educational milestone on the way toward earning the baccalaureate degree.

The primary thrust of this program is toward building strong proficiencies in modern manufacturing techniques. The baccalaureate degree is designed to impart an awareness of automated manufacturing techniques, such as numerical control, quality control, computer-aided manufacturing, computer graphics, and similar emerging high-technology career areas. Graduates are prepared to enter a wide range of manufacturing industries, such as automotive, aerospace, electrical/electronic equipment, food processing and consumer goods.

#### **Terminal Capstone Course and Planned Sequences**

The baccalaureate degree features a terminal capstone course which serves to pull together the related knowledge and components of the program. For the baccalaureate degree, the capstone course is IST 4610, Manufacturing Management (Capstone Project). Also, four planned sequences of technical specialties are contained within the baccalaureate program: metal technology, quality control, computer integrated manufacturing, and manufacturing systems management.

#### **Program Changes, Academic Standards and Revisions**

It should be noted that the program that follows is subject to continuing changes and revisions. In addition, the department insists on high standards of academic performance by its students. As part of this standard, a grade of "C" or higher is required in all courses credited toward degree requirements except under approved cultural diversity electives and approved humanistic and social science electives. No preparatory and/or remedial course work will count toward fulfillment of degree requirements. In addition, each student must meet general education requirements of the university campus upon which their program of study resides. To obtain the most current approved listing of program courses, academic standards and requirements, interested persons should consult an academic adviser or the chairman of the Industrial Systems Technology Department.

The manufacturing engineering technology program is accredited at the two- and four-year levels by the Technology Accreditation Commission/Accreditation Board for Engineering and Technology (111 Market Place, Suite 1050, Baltimore, MD 21202; (410) 347-7700).

Please consult the University of Nebraska at Omaha Undergraduate Catalog or [www.unomaha.edu/](http://www.unomaha.edu/) for curriculum details.



## Harris Smith

"Theater is so powerful — it has the capacity to touch people's lives. It affects people on an emotional level. In Western civilization, the struggle to get to an outcome in a play or film is more important than the outcome itself — how the people are made up and how culture and environment make people who they are. Theater helps us be more open-minded and accepting of different types of people. I like the breadth of basic courses our students take as they help students become well-rounded people. Our graduates have important communication skills that will serve them well acting professionally, attending graduate school, or entering an entirely different profession.

"I feel strongly about quality undergraduate education in theater because of the impact we have on students. We are the last stop before they go into the real world. I take my job and my responsibility to students very seriously because we provide their last chance to make mistakes and their biggest chance to learn and grow. I stay enthusiastic about teaching because I have a real sense of ownership about my students. When they leave here and perform, they represent the University and me, and I want to take pride in their performance."

*Harris Smith is an assistant professor of acting in the Department of Theatre Arts in the Hixson-Lied College of Fine and Performing Arts.*



# Hixson-Lied College of Fine and Performing Arts

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**Richard Durst**, M.F.A., Dean and Professor of Theatre Arts  
**Robert Fought**, Ed.D., Associate Dean and Professor of Music  
**Peggy Holloway**, D.M.A., Assistant Dean

## About the College

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The Hixson-Lied College of Fine and Performing Arts was established to provide a greater focus on the arts at UNL. The College is comprised of the Department of Art and Art History, the School of Music, the Department of Theatre Arts, the Dance Program, and the Mary Riepma Ross Film Theater. In addition, the Great Plains Art Collection, the Lentz Center for Asian Culture, the Lied Center for the Performing Arts, and the Sheldon Memorial Art Gallery 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.

## Academic Advising and Chief Advisers

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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. An academic 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 to answer advising questions, 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 Office of Admissions. The Dean's Office will complete an *Evaluation of Transfer Credit* form upon receipt of *Credit Hours 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) 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**  
Christin Mamiya  
207 Woods

**Art History**  
Christin Mamiya  
207 Woods

**Dance**  
Lisa Fusillo  
219 Mabel Lee Hall

**Music**  
James Michel  
225 Westbrook

**Music Education**  
Deborah Reinhardt  
354 Westbrook

**Theatre Arts**  
Shirley Mason  
215 Temple  
Janice Stauffer (design/technical)  
215 Temple

## College Scholarships

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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 the Dean's Office, 116 Architecture Hall, from departmental chairpersons, or from the Office of Scholarships and Financial Aid.

## Fulbright-Hays Fellowships

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These graduate 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.

## Honors Program

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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. In those departments such students may then progress more rapidly into advanced courses.

## Dean's Award for Academic Excellence

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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 consid-

eration. 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 (with the exception of MUED 497), transfer hours, removals of incompletes, and grade changes submitted after the census grade reports. Students who would like to be considered for the Dean's List the semester they are enrolled in MUED 497 may count the pass/no pass hours as part of the 12 credit hours requirement if their GPA for the semester is 3.7 or above **and** if they have been on the Dean's List the preceding two semesters.

## 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 Academic Distinction and Awards Committee. 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. The thesis must be acceptable to the College Committee as well as the departmental committee.

**Highest Distinction.** Candidates for the bachelors degree may be recommended for *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 the highest recommendation based upon a thesis or comparable creative effort.

**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 (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 by receiving a high recommendation based on a thesis or comparable creative effort.

**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 (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 by receiving a recommendation for distinction based on a thesis or comparable creative effort.

The following criteria apply to all categories: a recommendation for 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 P/N, and the number of courses retaken to remove D grades. 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 should approach the form and quality of a Master's thesis, but need not be as broad in scope. It should be substantially more extensive than a term paper. The thesis must be the result of independent, sustained thought, and intellectual curiosity. A survey of the literature about a particular topic is not sufficient. Ideally, there should be a clear formulation of a problem or question, a scholarly study which illuminates it, and a conclusion supported by evidence. A bibliography and reference to existing literature in the field should be included where appropriate.

As an aid to evaluation, an abstract consisting of no more than one page must be included at the front of the thesis. Because of the diverse backgrounds of the Committee members, candidates are encouraged to write theses to be understood by a non-specialist in the field.

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 examples of a Thesis Project are offered: one student prepared an arrangement of a particular symphony and accompanied it with a detailed description of the process of composing arrangements with literature references. Another student created a portfolio of photographs documenting life in a small town in Nebraska, accompanied with a lengthy historical background with literature references. Yet another student created a complete set of costume designs which were realized on the stage of Howell Theatre. The completed designs, photographs of finished costumes, and a paper detailing the process, research, and interpretation accompanied the graphics. In short, the Committee's interpretation requires that the effort must have a significant scholarly component, but it need not be in the format of a formal thesis.

Students who elect to work on a thesis project should make arrangements before their senior year by consulting with their academic adviser and with the faculty member who will supervise the project. The student should register for an independent study course in their major area of study (usually 399H or 499H) and proceed with the preparation of the independent work. Two members of the major department or area of study (one is normally the

adviser) must report to the Committee on the thesis work. Students who hope to be recommended for distinction on the basis of a thesis alone should have grade averages above 3.5.

In general, every thesis is read by at least one member of the Academic Distinction and Awards Committee. However, if no member of the Committee feels qualified in the subject area of the thesis 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 evaluations given on the attached form.

Thesis and thesis projects and their evaluations are due in the Dean's Office (116 Architecture Hall) on the following dates: November 3, 2000; March 9, July 10, and November 5, 2001. The forms for making the reports are available in 116 Architecture Hall.

## 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 must also meet performance requirements (ACT composite of 20 or higher **or** combined SAT score of 950 or higher **or** a rank in the top one-half of graduating class; transfer students must have a C, or 2.0 (on a 4.0 scale) cumulative grade point average and 2.0 on most recent term of attendance. Auditions are required for admission to the School of Music for music majors and music minors.

## 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 explained under "Removal of Deficiencies." on page 5 of this bulletin.

## Removing Foreign Language Deficiencies

A student who has had less than two years of one foreign language in high school has an entrance deficiency in foreign language and will need 130 hours as a minimum for a degree in the Hixson-Lied College of Fine and Perform-

ing Arts. A foreign language deficiency can be removed by successfully completing 101 and 102 in one foreign language. However, based on results of the Foreign Language Placement Exam, a student may be able to remove the deficiency by completing 102 only.

## 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 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.

All transfer students must complete the Residency Requirement (see "Residency Requirement and Correspondence Courses" on page 258) 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 other schools. The 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.

Each academic unit in the College evaluates the transfer credit hours which may be applied toward the requirements for a major or minor.

## 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

Contact the School of Music for the official transfer policy.

## 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 or a minor.

## 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 P/N 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. The N grade does not contribute to a student's GPA.
2. P is interpreted to mean **C or better**. Some professional education courses require a C+ or better.
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 only offered as P/N.
5. For undergraduates the 24 semester hours and/or college and department limits shall apply. These limits do not include courses only offered on a P/N basis.
6. Students may change to P/N up 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 P/N. This date coincides with the final date to drop a course without

the instructor's approval. This change to P/N requires the drop/add form be filed with Registration and Records and does not need the instructor's approval.

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. Each department may grant up to 6 hours credit taken on a pass/no pass basis in the major or teaching endorsement, and up to 6 hours of pass/no pass basis in the Plan A minor or each of two Plan B minors.
3. Freshmen and sophomores may enroll for no more than 6 hours of pass/no pass work per semester.
4. Departments may specify that certain of their 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, 116 Architecture 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, 107C 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, 107B 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, 116 Architecture Hall, 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, 116 Architecture Hall.

## 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. Students who enter the College with less 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, bachelor of fine arts, or bachelor of music degree. For the bachelor of music education degree, students who enter the College with less than two units of one foreign language from high school are required to take additional hours in foreign language. A total grade point average of at least 2.0 is required.

**Essential Studies Requirements, Library 110, Majors, and Minors.** In addition to general requirements, students must complete Essential Studies requirements for a degree, LIBR 110, the Integrative Studies requirement, 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 (or 130) semester hours of credit must be in courses numbered above 299.

## Course Exclusions and Restrictions

No credit for graduation is allowed for the following:

- athletic coaching
- vocational and adult education (Credit is allowed for CURR 120)
- driver training education
- first aid (HLTH 170 at UNL)
- industrial arts (including courses concerned primarily with manual skills, tools, machines, or industrial processes and design)
- orientation
- agricultural education (Credit is allowed for ALEC 102, 202, 494, and 496)
- CRIM 351. (Credit is allowed for CRIM 101, 203, 221, 251, 301, 331, 335, 337, 431, 435, 480, 495)

- MATH 100A
- CSCE 137

The current Hixson-Lied College of Fine and Performing Arts policy regarding elective credit in ROTC and activity or athletics practice courses in health and human performance (HHPT), in Teachers College is:

1. Students majoring in the Hixson-Lied College of Fine and Performing Arts may count up to *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 other 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 up to *4 hours credit* (1 credit hour per semester) in activity or athletic practice courses (HHPT), 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 other departments of the Hixson-Lied College of Fine and Performing Arts.

Students in the Hixson-Lied College of Fine and Performing Arts who do not qualify for a major in music may not receive credit for more than 8 hours in applied music study. For students not majoring in music, only 4 hours in any one of the following music ensemble courses, with a maximum of 8 hours in any combination of them, will apply toward the degree:

- Band 248, 448
- Concert Choir 242, 442
- Jazz Ensemble 344E
- Jazz Lab Band 344L
- Oratorio Chorus 241, 441
- Orchestra 247, 447
- Scarlet and Cream 344N
- University Chorale 246, 446
- University Singers 245, 445
- Varsity Glee Club 243, 443

## Residency Requirement and Correspondence Courses

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 at the University of Nebraska-Lincoln. This means that the last year of the student's work must be spent in residence. Correspondence and summer reading courses do not count toward residence or Integrative Studies requirements. However, 30 semester hours earned through correspondence courses and summer reading courses at UNL may be applied toward a degree from the College.

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 33).

**Restrictions on D Grades.** The College will accept no more than 15 semester hours of D grades from other schools. 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 Records Office, Service Counter 107B, 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, 116 Architecture 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 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.

## Which Undergraduate Bulletin to Follow

Students who first enroll at UNL under the 2000-2001 *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:** Essential Studies courses approved by the Hixson-Lied College of Fine and Performing Arts.

**Exception:** Students pursuing any degree program in the School of Music must be readmitted following an "absence from the College of one year or more" (i.e., failure to take at least one course that will apply toward meeting their degree requirements at the University of Nebraska-Lincoln during a 12-month period) and must meet all requirements in effect at the time of reentry.

## 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.

No student may be a candidate for more than one bachelors degree at a time in the College. However, a graduate who holds a bachelors degree from the Hixson-Lied College of Fine and Performing Arts may earn another bachelors degree from the College by completing an additional year of work in residence, taking at least 30 more semester hours of course work.

A student who has received a baccalaureate degree from another college must fulfill the following requirements to receive a second degree in the Hixson-Lied College of Fine and Performing Arts:

1. Complete 30 semester hours of course work at UNL in addition to transfer credit from another college, and
2. Fulfill the Hixson-Lied College of Fine and Performing Arts Essential Studies requirements and the requirements for a major.

## Integrative Studies [IS]

For degree requirements in the Hixson-Lied College of Fine and Performing Arts for Integrated Studies see "Integrative Studies [IS]" on page 14.

## Introduction to Library Research (1 cr)

See "Information Discovery and Retrieval" on page 13.

## Essential Studies [ES] Requirements for the Bachelor of Arts Degree

(See separate listings for the BFA, BM, and BME degree programs on page 264.)

The courses listed as fulfilling Essential Studies requirements have been reviewed by the faculty and have been selected because they contribute substantially to the objectives of a general liberal education. The courses also are intended to take into account the background and needs of nonmajors; to be broad in perspective, rather than narrow and technical; to attempt to show the relationship of the subject matter to other areas of knowledge. Courses taken to meet ES requirements **must** be selected from the lists that follow.

Any course used to clear an entrance deficiency may not also be used to fulfill any ES requirement for **any** degree program.

**Even though a course may appear on more than one Essential Studies list, a student may use a course in only one Essential Studies area. The only exception is Area H: Ethnicity and Gender. Any course completed for Area H: Ethnicity and Gender may also count toward one other Essential Studies requirement.**

**provided the course is on that list also, and provided that more than one course is completed in that other area.**

### A. Communication (6 hours)

The communication requirement is intended to enable students to improve their skill in written communication through study and practice in order to be better able to participate actively in the intellectual life of the University and in the larger community beyond.

- ENGL 101 (ABDH). Composition & Literature I (3 cr)  
 ENGL 102 (ABDH). Composition & Literature II (3 cr)  
 ENGL 150. Composition I (3 cr)  
 ENGL 150H. Honors: Composition I (3 cr)  
 ENGL 151. Composition II (3 cr)  
 ENGL 151H. Honors: Composition II (3 cr)  
 ENGL 188B. ESL/Advanced Communication Skills (3 cr)  
 ENGL 198G. Freshman Seminar, ADAPT (3 cr)

Students in the Hixson-Lied College of Fine and Performing Arts must complete the communication requirement by the first semester of their junior year (65 credit hours or more). Transfer students and others who have not met the requirement and have 65 or more credit hours must choose ENGL 254 or 354 to complete this requirement. In addition to the courses above, the College encourages students to take elective courses which will further enhance their oral communication. See your adviser to determine which course or courses may be best for you. The following courses are recommended: COMM 109, 209, 212, or 311.

### B. Mathematics and Statistics (3 hours)

**NOTE:** Any course in the Department of Mathematics and Statistics for which MATH 208 is a prerequisite may be substituted for MATH 208 as meeting the ES requirement.

The mathematics and statistics requirement is intended to impart knowledge of essential mathematical concepts and of the nature of mathematical reasoning and language or, when appropriate, of methods of statistical analysis.

- BIOM 201. Intro to Biometry (3 cr)  
 CSCE 235. Intro to Discrete Structures (3 cr)  
 MATH 104. Calculus for Managerial & Social Sciences (3 cr)  
 MATH 106. Analytic Geometry & Calculus I (5 cr)  
 MATH 106H. Honors: Analytic Geometry & Calculus I (5 cr)  
 MATH 107. Analytic Geometry & Calculus II (5 cr)  
 MATH 107H. Honors: Analytic Geometry & Calculus II (5 cr)  
 MATH 189H. University Honors Seminar (3 cr)  
 MATH 208. Analytic Geometry & Calculus III (4 cr)  
 MATH 208H. Honors: Analytic Geometry & Calculus III (4 cr)  
 MATH 394. Topics in Contemporary Mathematics (3 cr)  
 MNGT 245. Elementary Quantitative Methods (3 cr)  
 PHIL 211. Intro to Modern Logic (3 cr)  
 STAT 180. Elements of Statistics (3 cr)  
 TXCD 313. Theory & Practice of Merchandising (3 cr)

### C. Human Behavior, Culture and Social Organization (9 hours)

*Students must take at least 3 hours in each of two departments.*

**NOTE:** In fulfilling requirements in C, E, F, G and H, no more than 9 hours may be taken from any one department.

The human behavior, culture and social organization requirement is intended to impart 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 and the natural environment.

- AECN 141. Intro to Economics of Agriculture (3 cr)  
 AECN 265. Intro to Land Economics (3 cr)  
 AECN 276. Rural Sociology (3 cr)  
 AECN 346. World Food Economics (3 cr)  
 AECN 376. Rural Community Economics (3 cr)  
 AGRI 292. Intro to International Agricultural Issues (3 cr)  
 ANTH 107. Individual & Society (3 cr)  
 ANTH 110. Intro to Anthropology (3 cr)  
 ANTH 130. Anthropology of the Great Plains (3 cr)  
 ANTH 212. Intro to Cultural Anthropology (3 cr)  
 ANTH 222. Intro to Linguistics (3 cr)  
 ANTH 261. Conflict & Conflict Resolution (3 cr)  
 ANTH 351. People & Cultures of Native North America (3 cr)  
 ANTH 352. Intro to Plains Ethnology (3 cr)  
 ANTH 353. Anthropology of War (3 cr)  
 ANTH 362. Peoples & Cultures of Africa (3 cr)  
 ANTH 366. Peoples & Cultures of East Asia (3 cr)  
 BIOS 203. Bioethics (3 cr)  
 BRDC 226. Intro to Broadcasting (3 cr)  
 BRDC 465. International Broadcasting (3 cr)  
 COMM 130. Communication Strategies in Society (3 cr)  
 COMM 189H. University Honors Seminar (3 cr)  
 COMM 200. Intro to Communication Studies (3 cr)  
 COMM 210. Small Group Problem Solving (3 cr)  
 COMM 211. Intercultural Communications (3 cr)  
 COMM 226. Intro to Broadcasting (3 cr)  
 COMM 280. Communication & Popular Culture (3 cr)  
 COMM 283. Interpersonal Communication (3 cr)  
 COMM 300. Nonverbal Communication (3 cr)  
 COMM 354. Health Communication (3 cr)  
 COMM 370. Family Communication (3 cr)  
 COMM 371. Communication in Negotiation & Conflict Resolution (3 cr)  
 COMM 375. Theories of Persuasion (3 cr)  
 COMM 380. Gender & Communication (3 cr)  
 CURR 330. Multicultural Education (3 cr)  
 CURR 450. American Cultural Perspectives through Popular Music & Guitar (3 cr)  
 ECON 210. Intro to Economics (3 cr)  
 ECON 211. Principles of Macroeconomics (3 cr)  
 ECON 212. Principles of Microeconomics (3 cr)  
 EDPS 209. Strategies for Academic Success (3 cr)  
 EDUC 131. Foundations of Modern Education (3 cr)  
 ENGL 220. Intro to Linguistic Principles (3 cr)  
 ENGL 322B. Linguistics & Society (3 cr)  
 ETHN 189H. University Honors Seminar (3 cr)  
 ETHN 217. Nationality & Race Relations (3 cr)  
 ETHN 218. Chicanos in American Society (3 cr)  
 ETHN 310. Psychology of Immigration (3 cr)  
 ETHN 330. Multicultural Education (3 cr)  
 ETHN 448. Family Diversity (3 cr)  
 FACS 160. Human Development & the Family (3 cr)  
 FACS 171. Infancy (3 cr)  
 GEOG 120. Introductory Economic Geography (3 cr)  
 GEOG 140. Introductory Human Geography (3 cr)  
 GEOG 181. Quality of the Environment (3 cr)  
 GEOG 242. The Geographical Background to World Affairs (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 361. Urban Geography (3 cr)  
 GEOG 372. European Landscapes & Cultures (3 cr)  
 GEOG 374. Geography of Russia (3 cr)  
 GEOG 375. Geography of Asia (3 cr)  
 GEOG 378. Geography of Latin America (3 cr)  
 HHP 279. Psychosocial Aspects of Physical Activity & Sport  
 HIST 343. American Urban & Social History I (3 cr)  
 HIST 344. American Urban & Social History II (3 cr)

HIST 346. North American Environmental History (3 cr)  
 JGEN 123. The Media Today (3 cr)  
 MNGT 360. Human Resources Management (3 cr)  
 MNGT 360H. Honors: Human Resources Management (3 cr)  
 MNGT 465. Human Behavior in Organization (3 cr)  
 MUED 450. American Cultural Perspectives through Popular Music & Guitar (3 cr)  
 MUNM 450. American Cultural Perspectives through Popular Music & Guitar (3 cr)  
 NRES 323. Natural Resources Policy (3 cr)  
 NUTR 253. Cultural Aspects of Food & Nutrition (3 cr)  
 PHIL 216. Intro to Psychology & Philosophy (3 cr)  
 POLS 100. American Government (3 cr)  
 POLS 104. Contemporary Foreign Governments & Their Problems (3 cr)  
 POLS 160. International Relations (3 cr)  
 POLS 189H. University Honors Seminar (3 cr)  
 POLS 210. Intro to Public Administration (3 cr)  
 POLS 230. Political Parties & Election Campaigns (3 cr)  
 POLS 232. Public Issues in America (3 cr)  
 POLS 238. The Black in the American Political Process (3 cr)  
 POLS 260. Problems in International Relations (3 cr)  
 POLS 261. Conflict & Conflict Resolution (3 cr)  
 POLS 271. Politics of Industrial Democracies (3 cr)  
 POLS 272. Politics of the Non-Western World (3 cr)  
 POLS 273. The Politics of Russia & Neighboring Countries (3 cr)  
 POLS 310. Public Organizations (3 cr)  
 POLS 325. Legislative Process (3 cr)  
 POLS 334. An Intro to Public Opinion (3 cr)  
 POLS 345. The Judicial Process (3 cr)  
 POLS 371. Politics & Policymaking in the European Common Market (3 cr)  
 POLS 373. Eastern European Government & Politics (3 cr)  
 POLS 375. Politics of Major Asian Nations (3 cr)  
 POLS 377. Latin American Government & Politics (3 cr)  
 PSYC 107. Individual & Society (3 cr)  
 PSYC 181. Intro to Psychology (4 cr)  
 PSYC 181H. Honors: Intro to Psychology (4 cr)  
 PSYC 261. Conflict & Conflict Resolution (3 cr)  
 PSYC 263. Intro to Cognitive Processes (3 cr)  
 PSYC 268. Learning & Motivation (3 cr)  
 PSYC 270. Evolution, Behavior & Society (3 cr)  
 PSYC 287. The Psychology of Personality (3 cr)  
 PSYC 288. The Psychology of Social Behavior (3 cr)  
 PSYC 289. Developmental Psychology (3 cr)  
 PSYC 310. Psychology of Immigration (ETHN 310) (3 cr)  
 SOCI 101. Intro to Sociology (3 cr)  
 SOCI 107. Individual & Society (3 cr)  
 SOCI 182. Alpha Learning Community Freshman Seminar (3 cr)  
 SOCI 183. Alpha Learning Community Freshman Seminar (3 cr)  
 SOCI 189H. University Honors Seminar (3 cr)  
 SOCI 200. Women in Contemporary Society (3 cr)  
 SOCI 201. Social Problems (3 cr)  
 SOCI 209. Sociology of Crime (3 cr)  
 SOCI 210. Drugs & Society (3 cr)  
 SOCI 217. Nationality & Race Relations (3 cr)  
 SOCI 218. Chicanos in American Society (3 cr)  
 SOCI 225. Marriage & the Family (3 cr)  
 SOCI 241. Rural Sociology (3 cr)  
 SOCI 242. Urban Sociology (3 cr)  
 SOCI 261. Conflict Resolution (3 cr)  
 SOCI 320. Sociology of Sport (3 cr)  
 SOCI 444. Social Demography (3 cr)  
 SOCI 448. Family Diversity (3 cr)  
 SOCI 460. Education & Society (3 cr)  
 SOCI 496. Special Topics in Crime, Deviance & Social Contact (3 cr)  
 WMNS 189H. University Honors Seminar (3 cr)

## D. Science and Technology (7 hours)

*Students must take two semester courses, at least 3 credit hours each, or the equivalent, and 1 credit hour of laboratory work. Courses must be taken from at least two of the four sub-areas.*

The science and technology requirement is intended to impart 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. The emphasis in these courses will be on the results and methods of contemporary science and technology.

### 1. Courses Descriptive of Life Processes

AGEN 112. Engineering in Agricultural Biological Systems (BSEN 112) (3 cr)  
 AGEN 118. Fundamentals of Design for Agricultural & Biological Systems Engineering (BSEN 118) (3 cr)  
 AGRO 131. Crop Science (3 cr)  
 BIOS 101. General Biology (3 cr)  
 BIOS 101L. General Biology Lab (1 cr)  
 BIOS 109. General Botany (4 cr)  
 BIOS 112. Intro to Zoology (4 cr)  
 BIOS 115. Insect Biology (2 cr)  
 BIOS 116. Insect Identification (1 cr)  
*(Both BIOS 115 & 116 must be taken for ES credit)*  
 BIOS 213. Human Physiology (4 cr)  
 BIOS 213L. Human Physiology Lab (1 cr)  
 BIOS 230. Ecology of the Great Plains (3 cr)  
 BIOS 241. General Genetics (4 cr)  
 BIOS 301. General Genetics (3 cr)  
 BSEN 112. Engineering in Agricultural & Biological Systems (3 cr)  
 BSEN 118. Fundamentals of Design for Agricultural & Biological Systems Engineering (3 cr)  
 ENTO 115. Insect Biology (2 cr)  
 ENTO 116. Insect Identification (1 cr)  
*(Both ENTO 115 & 116 must be taken for ES credit)*  
 GEOL 100. Intro to Geology (3 cr)  
 GEOL 103. Historical Geology (4 cr)

**NOTE:** *Students may not receive credit for both GEOL 103 and 105.*

GEOL 105. Life of the Past (3 cr)  
 NRES 211. Wildlife Biology & Conservation (3 cr)  
 NUTR 151. Intro to Nutrition (3 cr)  
 PLPT 189H. University Honors Seminar (3 cr)  
 PLPT 269. Introductory Plant Pathology (4 cr)  
 PSYC 373. Biopsychology (BIOS 373) (4 cr)

### 2. Quantitative Physical Science Courses

ASTR 204. Introductory Astronomy & Astrophysics (4 cr)  
 CHEM 109. General Chemistry I (4 cr)  
**NOTE:** *Credit may be earned in only one of the three courses, CHEM 105, 109, or 113. Chemistry 105 applies to sub-area 3.*  
 CHEM 110. General Chemistry II (4 cr)  
 CHEM 111. Chemistry for Engineering & Technology (3 cr)  
 CHEM 113. Fundamental Chemistry I (4 cr)  
 CHEM 114. Fundamental Chemistry II (3 cr)  
 MSYM 109. Physical Principles in Agriculture (3 cr)  
 PHYS 141. Elementary General Physics (5 cr)  
 PHYS 141H. Honors: Elementary General Physics (5 cr)  
 PHYS 142. Elementary General Physics (5 cr)  
 PHYS 142H. Honors: Elementary General Physics (5 cr)  
 PHYS 151. Elements of Physics (4 cr)  
 PHYS 211. General Physics (4 cr)  
 PHYS 211H. Honors: General Physics (4 cr)  
 PHYS 212. General Physics (4 cr)  
 PHYS 212H. Honors: General Physics (4 cr)

PHYS 220. Classical Physics Lab (1 cr)

PHYS 222. Physics Lab (1 cr)

PHYS 261. Liberal Arts Physics (3 cr)

PHYS 361. Concepts of Modern Physics (3 cr)

PHYS 374. Fundamentals of Relativity (3 cr)

## 3. Courses Descriptive of the Physical Universe

ANTH 242. Intro to Physical Anthropology (3 cr)  
 ASTR 103. Descriptive Astronomy (3 cr)  
 ASTR 104. Introductory Observational Astronomy (3 cr)  
 ASTR 113. Selected Topics in Astronomy (3 cr)  
 CHEM 105. Chemistry & the Citizen I (4 cr)

**NOTE:** *Credit may be earned in only one of the three courses, CHEM 105, 109, or 113. CHEM 109 and 113 apply to the sub-area 2.*

CHEM 106. Chemistry & the Citizen II (4 cr)  
 CHEM 131. The Science of Food (3 cr)  
 GEOG 150. Physical Geography (3 cr)  
 GEOG 152. Physical Geography Lab (1 cr)  
 GEOG 155. Elements of Physical Geography (3 cr)  
 GEOL 101. Physical Geology (4 cr)  
 GEOL 106. Environmental Geology (3 cr)  
 GEOL 109. Oceanography (3 cr)  
 GEOL 305. Geology & Resources of the Middle East (3 cr)  
 METR 251. Meteorology Lab (1 cr)  
 METR 252. Meteorology (3 cr)  
 METR 353. Applied Climatology (3 cr)  
 PHYS 115. Descriptive Physics (3 cr)  
 PHYS 121. Energy in Perspective (3 cr)  
 PHYS 361. Concepts of Modern Physics (3 cr)  
 SCIE 185. Science & the Modern World (3 cr)  
 SCIE 185H. Honors: Science & the Modern World (3 cr)  
 SOIL 153. Soil Resources (4 cr)

## 4. Technology

ABSE 112. Intro to Problem Solving in Agricultural & Biological Systems Engineering (3 cr)  
 ABSE 218. Fundamentals of Biological & Agricultural Engineering (3 cr)  
 CSCE 155. Intro to Computer Science I (3 cr)  
 CSCE 155H. Honors: Intro to Computer Science I (3 cr)  
 CSCE 156. Intro to Computer Science II (3 cr)  
 CSCE 230. Computer Organization (3 cr)  
 ELEC 121. Intro to Electrical Engineering I (3 cr)  
 ELEC 122. Intro to Electrical Engineering II (3 cr)  
 ELEC 211. Elements of Electrical Engineering I (3 cr)  
 ENGM 220. Statics (3 cr)  
 ENGM 223. Engineering Statics (3 cr)

## E. Historical Studies (6 hours)

*Students must take one course from sub-area 1, History of Civilization; the additional 3 hours may be taken from sub-area 1 or 2.*

**NOTE:** In fulfilling requirements in C, E, F, G and H, no more than 9 hours may be taken from any one department.

The historical studies requirement is intended to impart knowledge of the way in which history may be used to interpret the development of peoples, nations or cultures.

## 1. History of Civilization Courses

*Includes non-western as well as western courses that provide comprehensive coverage of all aspects of historical studies, including social, cultural, political and economic, over an extensive geographic area and an extended period of time.*

ANTH 232. Intro to Prehistory (3 cr)  
 ANTH 252. Archaeology of World Civilizations (CLAS 252) (3 cr)  
 CLAS 252. Archaeology of World Civilizations (ANTH 252) (3 cr)

HIST 100. Western Civilization to 1715 (3 cr)  
 HIST 100H. Honors: Western Civilization to 1715 (3 cr)  
 HIST 101. Western Civilization Since 1715 (3 cr)  
 HIST 101H. Honors: Western Civilization Since 1715 (3 cr)  
 HIST 105. American Ways (POLS 105) (3 cr)  
 HIST 120. World History (3 cr)  
 HIST 150. African Culture & Civilization (3 cr)  
 HIST 171. Latin American Culture & Civilization (3 cr)  
 HIST 181. Intro to East Asian Civilization (POLS 171) (3 cr)  
 HIST 201. American History to 1877 (3 cr)  
 HIST 201H. Honors: American History to 1877 (3 cr)  
 HIST 202. American History After 1877 (3 cr)  
 HIST 202H. Honors: American History After 1877 (3 cr)  
 HIST 209. Ancient Civilization of the Middle East to 500 BC (3 cr)  
 HIST 210. Ancient Greece & Rome 500 BC-335 AD (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 219. Intro to Jewish History (3 cr)  
 HIST 220. History of Christianity (3 cr)  
 HIST 223. Spain & The Spanish Heritage (3 cr)  
 HIST 225. Women 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 Nineteenth & Twentieth Centuries (3 cr)  
 HIST 271. The Latin American Colonies (3 cr)  
 HIST 272. The Latin American Republics (3 cr)  
 HIST 281. Traditional East Asia (3 cr)  
 HIST 282. Modern East Asia (3 cr)  
 POLS 105. American Way (HIST 105) (3 cr)  
 POLS 108. Intro to Political Ideas (3 cr)

#### **Additional Courses**

*Includes courses that cover special topics or particular aspects of historical studies, a limited geographic area, or a shorter period of time.*

ANTH 439. Archaeology of Preindustrial Civilization (3 cr)  
 ARCH 240. History of Architecture (3 cr)  
 CLAS 182. Alpha Learning Community Freshmen Seminar (RELG 182) (3 cr)  
 CLAS 183. Alpha Learning Community Freshmen Seminar (RELG 183) (3 cr)  
 CLAS 205. Intro to the Hebrew Bible/Old Testament (JUDS, RELG 205) (3 cr)  
 CLAS 206G. Ways of Western Religion (3 cr)  
 CLAS 233. Science in the Classical World (3 cr)  
 CLAS 307. Early Christianity (HIST 307) (3 cr)  
 CLAS 308. History of Comparative Religion (HIST 308) (3 cr)  
 CLAS 331. Ancient Israel (JUDS, RELG 331) (3 cr)  
 COMM 220. Intro to the Study of Public Discourse (3 cr)  
 ETHN 241. Native American History (HIST 241) (3 cr)  
 ETHN 356. Race & Ethnicity in the American West (3 cr)  
 FREN 321. French Civilization I (3 cr)  
 FREN 322. French Civilization II (3 cr)  
 GEOG 334. Historical Geography of the Great Plains (3 cr)  
 GERM 321. German Civilization I (3 cr)  
 GERM 322. German Civilization II (3 cr)  
 HIST 189H. University Honors Seminar (3 cr)  
 HIST 217. Israel: The Holy Land (JUDS, RELG 217) (3 cr)

HIST 218. History of Islam (3 cr)  
 HIST 221. Science in History (3 cr)  
 HIST 222. History of Sport (3 cr)  
 HIST 241. Native American History (ETHN 241) (3 cr)  
 HIST 306. Afro-American History, 1619-1930 (3 cr)  
 HIST 308. History of Comparative Religion (3 cr)  
 HIST 310. The Hebrew Heritage (3 cr)  
 HIST 331. Ancient Israel (3 cr)  
 HIST 332. Jews in the Middle Ages (JUDS, RELG 333) (3 cr)  
 HIST 333. Jews in the Modern World (JUDS 333) (3 cr)  
 HIST 339. The Holocaust (3 cr)  
 HIST 343. Amer Urban & Social History I (3 cr)  
 HIST 344. Amer Urban & Social History II (3 cr)  
 HIST 346. North American Environmental History (JUDS 356) (3 cr)  
 HIST 349. Ideas in America to the Civil War (3 cr)  
 HIST 350. Ideas in America Since the Civil War (3 cr)  
 HIST 356. Race & Ethnicity in the American West (JUDS 356) (3 cr)  
 HIST 357. The History & Culture of the Mexican-American (3 cr)  
 HIST 358. The History & Culture of the American Indian (3 cr)  
 HIST 370. The Making of Colonial Mexico (2-3 cr)  
 HIST 371. The Shaping of Modern Mexico (2-3 cr)  
 HIST 372. Revolutions in Twentieth-Century Latin America (3 cr)  
 HIST 381. History of Premodern Japan (3 cr)  
 HIST 382. History of Modern Japan (3 cr)  
 HIST 383. History of Premodern China (3 cr)  
 HIST 384. History of Modern China (3 cr)  
 HIST 485. Africa Since 1800 (2-3 cr)  
 HIST 486. History of South Africa (3 cr)  
 JUDS 205. Intro to the Hebrew Bible/Old Testament (CLAS, RELG 205) (3 cr)  
 JUDS 217. Israel: The Holy Land (CLAS, RELG 217) (3 cr)  
 JUDS 331. Ancient Israel (CLAS, RELG 331) (3 cr)  
 JUDS 332. Jews in the Middle Ages (HIST, RELG 333) (3 cr)  
 JUDS 333. Jews in the Modern World (HIST 333) (3 cr)  
 JUDS 356. Race & Ethnicity in the American West (HIST 356) (3 cr)  
 PHIL 223. Intro to Philosophy of History (3 cr)  
 PHIL 231. History of Philosophy (Ancient) (3 cr)  
 PHIL 232. History of Philosophy (Modern) (3 cr)  
 PHIL 331. Hellenistic Philosophy (3 cr)  
 PHIL 335. Medieval Philosophy (3 cr)  
 POLS 380. American Political Thought (3 cr)  
 POLS 385. Democratic Theory (3 cr)  
 RELG 182. Alpha Learning Community Freshmen Seminar (CLAS 182) (3 cr)  
 RELG 183. Alpha Learning Community Freshmen Seminar (CLAS 183) (3 cr)  
 RELG 205. Intro to the Hebrew Bible/Old Testament (CLAS, JUDS 205) (3 cr)  
 RELG 217. Israel: The Holy Land (CLAS, JUDS 217) (3 cr)  
 RELG 308. History of Comparative Religion (3 cr)  
 RELG 331. Ancient Israel (CLAS, JUDS 331) (3 cr)  
 RELG 332. Jews in the Middle Ages (HIST, JUDS 333) (3 cr)  
 SPAN 321. Spanish Civilization (3 cr)  
 SPAN 331. Latin American Civilization (3 cr)

#### **F. Humanities (\*3 hours)**

*\*An additional 6 hours must be taken from either Area F or G for a total of 12 hours in the humanities and arts.)*

**NOTE:** In fulfilling requirements in C, E, F, G and H, no more than 9 hours may be taken from any one department.

The humanities requirement is intended to impart knowledge of literary, philosophical, or religious efforts to interpret and illuminate human existence.

AECN 388. Ethics in Agriculture & Natural Resources (ALEC 388) (3 cr)  
 ALEC 388. Ethics in Agriculture & Natural Resources (AECN 388) (3 cr)  
 CLAS 150G. Intro to Classics (3 cr)  
 CLAS 180. Classical Mythology (3 cr)  
 CLAS 182. Alpha Learning Community Freshmen Seminar (3 cr)  
 CLAS 183. Alpha Learning Community Freshmen Seminar (3 cr)  
 CLAS 205. Intro to the Hebrew Bible/Old Testament (3 cr)  
 CLAS 206G. Ways of Western Religion (3 cr)  
 CLAS 281. Greek Literature in Translation (ENGL 240A) (3 cr)  
 CLAS 282. Latin Literature in Translation (ENGL 240B) (3 cr)  
 CLAS 283. Epic Tales: The World's Heros & Gods (3 cr)  
 CLAS 286. Literature of the Ancient Near East (3 cr)  
 CLAS 307. Early Christianity (HIST 307) (3 cr)  
 CLAS 340. Women in the Biblical World (3 cr)  
 CLAS 350. Literature of Judaism (JUDS 350) (3 cr)  
 CLAS 380. Pastoral Poetry in Translation (3 cr)  
 CLAS 381. Ancient Novel (3 cr)  
 CLAS 409. The Religion of Late Western Antiquity (HIST 409) (2-3 cr)  
 CLAS 483. Classical Drama (3 cr)  
 COMM 205. Performance of Literature (3 cr)  
 COMM 220. Intro to the Study of Public Discourse (3 cr)  
 COMM 306. Readers Theatre (3 cr)  
 ENGL 180G. Intro to Literature (3 cr)  
 ENGL 189H. University Honors Seminar (3 cr)  
 ENGL 201A. Intro to Drama (3 cr)  
 ENGL 201B. Twentieth-Century Drama (3 cr)  
 ENGL 202. Twentieth-Century Poetry (3 cr)  
 ENGL 202A. Intro to Poetry (3 cr)  
 ENGL 205. Twentieth-Century Fiction (3 cr)  
 ENGL 207. Intro to Popular Literature (3 cr)  
 ENGL 209. Film: The Documentary (3 cr)  
 ENGL 210B. Sex Roles in Literature (3 cr)  
 ENGL 210I. Illness & Health in Literature (3 cr)  
 ENGL 210T. Stories & Human Experiences (3 cr)  
 ENGL 211A. Literature of the Great Plains (3 cr)  
 ENGL 211D. Literature of the South (3 cr)  
 ENGL 213E. Intro to Film History (3 cr)  
 ENGL 215E. Intro to Women's Literature (3 cr)  
 ENGL 215J. Twentieth-Century Women Writers (3 cr)  
 ENGL 216A. Children's Literature (3 cr)  
 ENGL 219. Film Genre (3 cr)  
 ENGL 230. English Authors Before 1800 (3 cr)  
 ENGL 230A. Shakespeare (3 cr)  
 ENGL 231. English Authors After 1800 (3 cr)  
 ENGL 233B. Major American Authors (3 cr)  
 ENGL 234A. Classic European Authors (3 cr)  
 ENGL 234B. European Authors Since 1660 (3 cr)  
 ENGL 234D. Major Themes in World Literature (3 cr)  
 ENGL 239A. Women Filmmakers (3 cr)  
 ENGL 240A. The World of Classical Greece (3 cr)  
 ENGL 240B. The World of Classical Rome (3 cr)  
 ENGL 243B. Literature of India (3 cr)  
 ENGL 244. Afro-American Literature (3 cr)  
 ENGL 244A. Intro to African Literatures (3 cr)  
 ENGL 244B. Black Women Authors (3 cr)  
 ENGL 244D. African-Caribbean Literature (3 cr)  
 ENGL 244E. Early African American Literature (3 cr)  
 ENGL 245B. Native American Literature (3 cr)  
 ENGL 245D. Chicano Literature (3 cr)  
 ENGL 245J. Jewish-American Fiction (3 cr)  
 ENGL 247. Literature & Arts on the Plains (3 cr)  
 ENGL 261E. American Literary Works (3 cr)  
 ENGL 271G. Approaches to Literature (3 cr)  
 ENGL 282. Literature & the Other Arts (3 cr)

ENGL 285. Intro to Comparative Literature (3 cr)  
 ENGL 303. Short Story (3 cr)  
 ENGL 305A. The Novel 1700-1900 (3 cr)  
 ENGL 311D. Literature of Socialism (3 cr)  
 ENGL 315A. Survey of Women's Literature (3 cr)  
 ENGL 315B. Women in Popular Culture (3 cr)  
 ENGL 330E. Chaucer, Shakespeare, Milton (3 cr)  
 ENGL 340. Classical Roots of English Literature (3 cr)  
 ENGL 341. Judeao-Christian Literature (3 cr)  
 ENGL 342A. Irish Literature (3 cr)  
 ENGL 347. Humanities on the Plains (3 cr)  
 ENGL 361A. Intro to Early American Literature (3 cr)  
 ENGL 361B. Intro to Late American Literature (3 cr)  
 ENGL 362. Intro to Medieval Literature (3 cr)  
 ENGL 363. Intro to Renaissance Literature (3 cr)  
 ENGL 364. Intro to Restoration & Eighteenth-Century Literature (3 cr)  
 ENGL 365. Intro to Nineteenth-Century British Literature (3 cr)  
 ENGL 373. Film Theory & Criticism (3 cr)  
 ENGL 381. Ancient Novel (3 cr)  
 ENGL 440. Classical Drama (3 cr)  
 ETHN 189H. University Honors Seminar (3 cr)  
 FREN 282. French Literature in Translation I (3 cr)  
 FREN 283. French Literature in Translation II (3 cr)  
 FREN 301. Representative Authors I (3 cr)  
 FREN 302. Representative Authors II (3 cr)  
 GERM 282. German Literature in Translation I (3 cr)  
 GERM 283. German Literature in Translation II (3 cr)  
 GERM 301. Representative Authors I (3 cr)  
 GERM 302. Representative Authors II (3 cr)  
 HIST 349. Ideas in America to the Civil War (3 cr)  
 HIST 350. Ideas in America Since the Civil War (3 cr)  
 ITAL 301. Representative Authors I (3 cr)  
 ITAL 302. Representative Authors II (3 cr)  
 JUDS 205. Intro to the Hebrew Bible/Old Testament (3 cr)  
 JUDS 340. Women in the Biblical World (3 cr)  
 JUDS 350. Literature of Judaism (CLAS 350) (3 cr)  
 MODL 189H. University Honors Seminar (3 cr)  
 MODL 230G. Individual in Renaissance Society (3 cr)  
 MODL 234D. Major Themes in World Literatures (3 cr)  
 MODL 285. Intro to Comparative Literature (3 cr)  
 PHIL 101. Intro to Philosophy (3 cr)  
 PHIL 106. Philosophy & Current Issues (3 cr)  
 PHIL 110. Intro to Logic & Critical Thinking (3 cr)  
 PHIL 116. Philosophy & Religious Belief (3 cr)  
 PHIL 127. Philosophy Looks at the Arts (3 cr)  
 PHIL 182. Alpha Learning Community Freshmen Seminar (3 cr)  
 PHIL 183. Alpha Learning Community Freshmen Seminar (3 cr)  
 PHIL 213. Medical Ethics (3 cr)  
 PHIL 220. Elements of Ethics (3 cr)  
 PHIL 221. Political Philosophy (3 cr)  
 PHIL 223. Philosophy of History (3 cr)  
 PHIL 230. Philosophy of Law (3 cr)  
 PHIL 231. History of Philosophy (Ancient) (3 cr)  
 PHIL 232. History of Philosophy (Modern) (3 cr)  
 PHIL 265. Philosophy of Religion (3 cr)  
 PHIL 301. Theory of Knowledge (3 cr)  
 PHIL 302. Intro to Metaphysics (3 cr)  
 PHIL 314. Problems in the Philos of Mind (3 cr)  
 PHIL 317. Philosophy of Science (3 cr)  
 PHIL 320. Ethical Theory (3 cr)  
 PHIL 323. Topics in Applied Ethics (3 cr)  
 PHIL 325. Advanced Social Political Philosophy (3 cr)  
 PHIL 327. Aesthetics (3 cr)  
 PHIL 331. Hellenistic Philosophy (3 cr)  
 PHIL 332. Spinoza (3 cr)  
 PHIL 335. Medieval Philosophy (3 cr)  
 PHIL 340. Contemporary Analytical Philosophy (3 cr)  
 PHIL 341. Contemporary Continental Philosophy (3 cr)  
 PORT 301. Representative Authors I (3 cr)  
 PORT 302. Representative Authors II (3 cr)  
 RELG 150. Explaining Religion (3 cr)  
 RELG 182. Alpha Learning Community Freshmen Seminar (3 cr)

RELG 183. Alpha Learning Community Freshmen Seminar (3 cr)  
 RELG 205. Intro to the Bible/Old Testament (3 cr)  
 RELG 206. Ways of Western Religion (3 cr)  
 RELG 310. Great Ideas in Religious Thought: From God to Nothingness (3 cr)  
 RELG 340. Women in the Biblical World (3 cr)  
 RELG 350. Literature of Judaism (3 cr)  
 RELG 409. The Religion of Late Western Antiquity (2-3 cr)  
 RUSS 301. Representative Authors I (3 cr)  
 RUSS 302. Representative Authors II (3 cr)  
 RUSS 482. Russian Literature in Translation I (1-24 cr)  
 RUSS 483. Russian Literature in Translation II (1-24 cr)  
 SPAN 264. Spanish-American Literature in Translation I (1-24 cr)  
 SPAN 265. Spanish-American Literature in Translation II (1-24 cr)  
 SPAN 282. Spanish Literature in Translation I (1-24 cr)  
 SPAN 283. Spanish Literature in Translation II (1-24 cr)  
 SPAN 305. Literary Analysis in Spanish (3 cr)  
 SPAN 311. Representative Spanish-American Authors I (3 cr)  
 SPAN 312. Representative Spanish-American Authors II (3 cr)  
 SPAN 314. Representative Authors of Spain I (3 cr)  
 SPAN 315. Representative Authors of Spain II (3 cr)  
 SPAN 331. Latin American Civilization (3 cr)  
 WMNS 189H. University Honors Seminar (3 cr)

### G. Arts (\*3 hours)

*\*An additional 6 hours must be taken from either Area F or G for a total of 12 hours in the humanities and arts.*

**NOTE:** In fulfilling requirements in C, E, F, G and H, no more than 9 hours may be taken from any one department.

The arts area is intended to impart knowledge of the history and creation of music, art, design, architecture, drama, dance, photography, or the communication media. Courses in this area focus primarily on the creation and performance of the fine and performing arts.

AHIS 101. Intro to Art History & Criticism I (3 cr)  
 AHIS 102. Intro to Art History & Criticism II (3 cr)  
 AHIS 189H. University Honors Seminar (3 cr)  
 AHIS 211. Classical Art & Archeology (3 cr)  
 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 246. Modern Art (3 cr)  
 AHIS 251. Art in the United States (3 cr)  
 AHIS 256. Latin American Art (3 cr)  
 AHIS 261. Oriental Art: India, Ceylon, Java, Japan (3 cr)  
 AHIS 262. Oriental Art: China, Korea, Southeast Asia (3 cr)  
 AHIS 341. European Art of the Nineteenth-Century (2 cr)

AHIS 471. History of Photography (3 cr)  
 ARCH 106. Intro to Design (3 cr)  
 CERM 131. Intro to Ceramics (3 cr)  
 CERM 231. Beginning Ceramics I (3 cr)  
 CERM 232. Beginning Ceramics II (3 cr)  
 COMM 212. Debate (3 cr)  
 CURR 450. American Cultural Perspectives through Popular Music & Guitar (3 cr)  
 DANC 159. Intro to Dance (3 cr)  
 DANC 359. History of Dance (3 cr)  
 DANC 459. Twentieth-Century Dance (3 cr)  
 DESN 111. Foundation Design (3 cr)  
 DRAW 101. Beginning Drawing I (3 cr)  
 DRAW 102. Beginning Drawing II (3 cr)  
 DRAW 201. Intermediate Drawing (3 cr)  
 DRAW 202. Life Drawing (3 cr)  
 ENGL 252. Writing of Fiction (3 cr)  
 ENGL 253. Writing of Poetry (3 cr)

ENGL 259A. Writing for Films & TV (3 cr)  
 GRPH 221. Beginning Graphic Design (3 cr)  
 GRPH 223. Basic Typography (3 cr)  
 HORT 200. Landscape & Environmental Appreciation (3 cr)  
 IDES 106. Intro to Design (3 cr)  
 MUED 450. American Cultural Perspectives through Popular Music & Guitar (3 cr)  
 MUNM 276G. The Music Experience (3 cr)  
 MUNM 280. World Music (3 cr)  
 MUNM 287. The History of Rock Music (3 cr)  
 MUNM 387. History of American Jazz (3 cr)  
 MUNM 388. Arts of the 20th Century: 1900-1945 (AHIS, THEA 388) (3 cr)  
 MUNM 389. Arts 20th Century: 1945-Present (AHIS, THEA 388) (3 cr)  
 MUNM 450. American Cultural Perspectives through Popular Music & Guitar (3 cr)  
 MUSC 189H. University Honors Seminar (3 cr)  
 MUSC 278. Analytical Listening to Music Literature (3 cr)  
 MUSC 365. Music History & Literature I (3 cr)  
 MUSC 366. Music History & Literature II (3 cr)  
 MUSC 370H. Honors: Women Making Music (3 cr)  
 PANT 251. Painting I (3 cr)  
 PANT 252. Painting II (3 cr)  
 PHOT 161. Beginning Photography I (3 cr)  
 PHOT 261. Beginning Photography II (3 cr)  
 PHOT 262. Intermediate Photography (3 cr)  
 PHOT 263. Color Photography (3 cr)  
 PRNT 241. Beginning Printmaking I (3 cr)  
 PRNT 242. Beginning Printmaking II (3 cr)  
 SCLP 211. Beginning Sculpture I (3 cr)  
 SCLP 212. Beginning Sculpture II (3 cr)  
 THEA 112G. Intro to Theatre (3 cr)  
 THEA 114. Basic Acting I (3 cr)  
 THEA 131. Intro to Playwriting (3 cr)  
 THEA 201. Technical Theatre Practice (3 cr)  
 THEA 234. Scripts in Performance (3 cr)  
 THEA 335. History of Theatre I (3 cr)  
 THEA 336. History of Theatre II (3 cr)  
 TXCD 121. Design Essentials (3 cr)  
 TXCD 222. Intermediate Design & Color Theory (3 cr)  
 TXCD 225. Surface Design of Textiles (3 cr)  
 TXCD 323. Fashion Illustration (3 cr)  
 TXCD 325. Woven & Nonwoven Textile Design (3 cr)

### H. Ethnicity and Gender (3 hours)

**NOTE:** Students may apply one of these courses to one other Essential Studies requirement, provided the course is also listed in that area, and provided that more than one course is completed in that other area.

**NOTE:** In fulfilling requirements in C, E, F, G and H, no more than 9 hours may be taken from any one department.

The ethnicity and gender area is intended to provide 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.

ANTH 252. Archaeology of World Civilizations (3 cr)  
 ANTH 351. Peoples & Cultures of Native North America (3 cr)  
 ANTH 352. Intro to Plains Ethnology (3 cr)  
 ANTH 362. Peoples & Cultures of Africa (3 cr)  
 ANTH 366. Peoples & Cultures of East Asia (3 cr)  
 CLAS 182. Alpha Learning Community Freshmen Seminar (3 cr)  
 CLAS 183. Alpha Learning Community Freshmen Seminar (3 cr)  
 CLAS 252. Archaeology of World Civilizations (3 cr)  
 CLAS 340. Women in the Biblical World (3 cr)  
 CLAS 350. Literature of Judaism (JUDS 350) (3 cr)  
 COMM 211. Intercultural Communication (3 cr)  
 COMM 380. Gender & Communication (3 cr)

CURR 330. Multicultural Education (3 cr)  
 ECON 357. Women & Work in the US Economy (3 cr)  
 ENGL 210B. Sex Roles in Literature (3 cr)  
 ENGL 215E. Intro to Women's Literature (3 cr)  
 ENGL 215J. Twentieth-Century Women Writers (3 cr)  
 ENGL 239A. Women Filmmakers (3 cr)  
 ENGL 243B. Literature of India (3 cr)  
 ENGL 244. Afro-American Literature (3 cr)  
 ENGL 244A. Intro to African Literatures (3 cr)  
 ENGL 244B. Black Women Authors (3 cr)  
 ENGL 244D. African-Caribbean Literature (3 cr)  
 ENGL 244E. Early African American Literature (3 cr)  
 ENGL 245B. Native American Literature (3 cr)  
 ENGL 245D. Chicano Literature (3 cr)  
 ENGL 245J. Jewish-American Fiction (3 cr)  
 ENGL 315A. Survey of Women's Literature (3 cr)  
 ENGL 315B. Women in Popular Culture (3 cr)  
 ETHN 100. Freshman Seminar—The Minority Experience (3 cr)  
 ETHN 189H. University Honors Seminar (3 cr)  
 ETHN 217. Nationality & Race Relations (3 cr)  
 ETHN 218. Chicanos in American Society (3 cr)  
 ETHN 241. Native American History (3 cr)  
 ETHN 310. Psychology of Immigration (3 cr)  
 ETHN 330. Multicultural Education (3 cr)  
 ETHN 448. Family Diversity (3 cr)  
 ETHN 356. Race & Ethnicity in the American West (3 cr)  
 FREN 323. Aspects of Francophone Civilization (3 cr)  
 GEOG 375. Geography of Asia (3 cr)  
 GEOG 378. Geography of Latin America (3 cr)  
 HIST 150. African Culture & Civilization (3 cr)  
 HIST 171. Latin American Culture & Civilization (3 cr)  
 HIST 181. Intro to East Asian Civilization (POLS 171) (3 cr)  
 HIST 210. Intro to Jewish History (3 cr)  
 HIST 217. Israel: The Holy Land (3 cr)  
 HIST 218. History of Islam (3 cr)  
 HIST 225. Women in History (3 cr)  
 HIST 241. Native American History (3 cr)  
 HIST 271. The Latin American Colonies (3 cr)  
 HIST 272. The Latin American Republics (3 cr)  
 HIST 281. Traditional East Asia (3 cr)  
 HIST 282. Modern East Asia (3 cr)  
 HIST 306. Afro-American History, 1619-1930 (3 cr)  
 HIST 332. Jews in the Middle Ages (3 cr)  
 HIST 333. Jews in the Modern World (3 cr)  
 HIST 339. The Holocaust (3 cr)  
 HIST 356. Race & Ethnicity in the American West (3 cr)  
 HIST 357. The History & Culture of the Mexican-American (3 cr)  
 HIST 358. The History & Culture of the American Indian (3 cr)  
 HIST 370. The Making of Colonial Mexico (2-3 cr)  
 HIST 371. The Shaping of Modern Mexico (2-3 cr)  
 HIST 372. Revolutions in Twentieth-Century Latin America (3 cr)  
 HIST 381. History of Premodern Japan (3 cr)  
 HIST 382. History of Modern Japan (3 cr)  
 HIST 383. History of Premodern China (3 cr)  
 HIST 384. History of Modern China (3 cr)  
 HIST 485. Africa Since 1800 (3 cr)  
 HIST 486. History of South Africa (3 cr)  
 JUDS 217. Israel: The Holy Land (3 cr)  
 JUDS 332. Jews in the Middle Ages (3 cr)  
 JUDS 333. Jews in the Modern World (3 cr)  
 JUDS 340. Women in the Biblical World (3 cr)  
 JUDS 350. Literature of Judaism (CLAS 350) (3 cr)  
 JUDS 356. Race & Ethnicity in the American West (3 cr)  
 MUSC 280. World Music (3 cr)  
 MUSC 370H. Honors: Women Making Music (3 cr)  
 NUTR 253. Cultural Aspects of Food & Nutrition (3 cr)  
 POLS 238. The Black in the American Political Process (3 cr)

POLS 272. Politics of the Non-Western World (3 cr)  
 POLS 375. Politics of Major Asian Nations (3 cr)  
 POLS 377. Latin American Government & Politics (3 cr)  
 PSYC 310. Psychology of Immigration (3 cr)  
 PSYC 421. Psychology of Women (3 cr)  
 RELG 182. Alpha Learning Community Freshmen Seminar (3 cr)  
 RELG 183. Alpha Learning Community Freshmen Seminar (3 cr)  
 RELG 217. Israel: The Holy Land (3 cr)  
 RELG 332. Jews in the Middle Ages (3 cr)  
 RELG 340. Women in the Biblical World (3 cr)  
 SOCI 182. Alpha Learning Community Freshmen Seminar (3 cr)  
 SOCI 183. Alpha Learning Community Freshmen Seminar (3 cr)  
 SOCI 189H. University Honors Seminar (3 cr)  
 SOCI 200. Women in Contemporary Society (3 cr)  
 SOCI 217. Nationality & Race Relations (3 cr)  
 SOCI 218. Chicanos in American Society (3 cr)  
 SOCI 448. Family Diversity (3 cr)  
 SOCI 460. Education & Society (3 cr)  
 SPAN 264. Spanish-American Literature in Translation I (1-24 cr)  
 SPAN 265. Spanish-American Literature in Translation II (1-24 cr)  
 SPAN 331. Latin American Civilization (3 cr)  
 UHON 395H. Honors: Women in Music (3 cr)  
 WMNS 189H. University Honors Seminar (3 cr)

### **I. Languages—Classical and Modern (0-16 hours)**

The languages requirement serves to help students gain a working familiarity with a language and a culture other than their own.

Students must begin any college-level language study course by the first semester of their junior year (65 or more credit hours) to maintain satisfactory standing in the Hixson-Lied College of Fine and Performing Arts.

The requirement will be fulfilled by the completion of a 16-hour sequence of courses in a single foreign language in either the Department of Classics or the Department of Modern Languages and Literatures: 10 hours at the 100 level and 6 hours at the 200 level. (Greek 101, 102, and two 300-level courses in Greek; LATN 101, 102, and two 200- or 300-level courses in Latin). Instruction is presently available in Chinese, Czech, French, German, Greek, Italian, Japanese, Latin, Portuguese, Russian, and Spanish.

#### **NOTE:**

1. Interim language course for credit in the country of the language are also periodically available.
2. A Student who has completed three years of one foreign language study in high school may fulfill the language requirement by taking a fourth semester course.
3. A student who has completed the fourth-year level of one foreign language in high school is exempt from the languages requirement.
4. 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.
5. A transfer student with 11 or 12 semester hours of accepted credit has two choices:  
 a. to complete 6 hours in the same language at the 200 level, **or**

- b. with permission of the chair of the department to enroll in a fourth semester course.
6. 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 of the Hixson-Lied College of Fine and Performing Arts for this exemption.

Students not fulfilling the entrance requirement in languages (two units of the same language in high school) will need 130 (instead of 125) hours for graduation.

CHIN 101. Beginning Chinese I (5 cr)  
 CHIN 102. Beginning Chinese II (5 cr)  
 CHIN 201. Second-Year Chinese I (3 cr)  
 CHIN 202. Second-Year Chinese II (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)  
 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 361. Homer (3cr)  
 GREK 371. Xenophon (3 cr)  
 GREK 372. Plata (3 cr)  
 GREK 373. New Testament Greek (3 cr)  
 HEBR 101. Elementary Biblical Hebrew (3 cr)  
 HEBR 102. Elementary Hebrew (3 cr)  
 HEBR 201. Biblical Hebrew Prose (3 cr)  
 HEBR 202. Biblical Hebrew Prose (3 cr)  
 ITAL 101. Beginning Italian I (5 cr)  
 ITAL 102. Beginning Italian II (5 cr)  
 ITAL 201. Second-Year Italian I (3 cr)  
 ITAL 202. Second-Year Italian II (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 201. Latin Prose (3 cr)  
 LATN 301. Cicero (3 cr)  
 PORT 110. Accelerated Beginning Portuguese (10 cr)  
 PORT 210. Accelerated Second-Year Portuguese (6 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)  
 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)

## Requirements for the Bachelor of Fine Arts Degree

### Art

Each candidate for the bachelor of fine arts degree with an emphasis in ceramics, drawing, graphic design, illustration, painting, photography, printmaking, or sculpture must complete the following program:

	Hours
<b>Essential Studies Requirements</b>	<b>30</b>
All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.	
Area A. Communication.....	6
Courses must be in written communication.	
Area B. Mathematics and Statistics .....	3
Area C. Human Behavior, Culture, and Social Organization .....	6
Area D. Science and Technology .....	3
Area E. Historical Studies .....	3
Area F. Humanities .....	3
Area G. Arts.....	3
Area H. Ethnicity and Gender .....	3
<b>Library 110</b> .....	<b>1</b>
<b>Academic Electives</b> .....	<b>6</b>
<b>Art Courses</b> .....	<b>88</b>
Art History (including AHIS 101 and 102).....	15
Art Theory and Practice .....	73
Visual Literacy (10 hrs) ARTP 140, 140L, 141, 141L	
Required Drawing (6 hrs) DRAW 201, 202	
Required Distribution (18 hrs) SCLP 211, GRPH 221, CERM 231, PRNT 241, PANT 251, PHOT 261	
Studio Emphasis or Studio Electives (36 hrs) ARTP 099 (0 cr), ARTP 400 (3 cr)	
<b>Total 125</b>	

### Dance

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. All major students are required to perform each semester.

The requirements for the degree include:

	Hours
<b>Essential Studies Requirements</b> .....	<b>46-62</b>
All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.	
Area A. Communication.....	6
Courses must be in written communication.	
Area B. Mathematics and Statistics .....	3
Area C. Human Behavior, Culture, and Social Organization .....	9
Area D. Science and Technology .....	7
Area E. Historical Studies .....	6
Area F. Humanities .....	3
Area G. Arts.....	3
Additional hours required from Area F or G.....	6
Area H. Ethnicity and Gender .....	3
Area I. Languages, Classical and Modern .....	0-16
<b>Library 110</b> .....	<b>1</b>
<b>Non-Departmental Electives</b> .....	<b>10-31</b>
<b>Dance Major Requirements</b> .....	<b>52</b>
Dance Technique.....	22
Dance Theory & History .....	21
Dance Comp & Electives .....	9
<b>Total 125-130</b>	

**Bachelor of Fine Arts in Education.** This program is intended primarily for students interested in teaching art in public and private school systems. For detailed information interested students should consult the Teachers College section of this bulletin.

### Theatre Arts (Design/Technical Production)

The bachelor of fine arts with an emphasis in theatre arts is designed for students in the Hixson-Lied College of Fine and Performing Arts who wish to pursue a major in theatre arts with specialized preparation for professional careers in theatre and television arts in the field of design/technical production. The sequence of courses in this program provides a balance between general cultural courses in the liberal arts and more specialized courses with emphasis on theatre arts.

	Hours
<b>Essential Studies Requirements</b> .....	<b>30</b>
All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.	
Area A. Communication.....	6
Courses must be in written communication.	
Area B. Mathematics and Statistics .....	3
Area C. Human Behavior, Culture, and Social Organization .....	6
Area D. Science and Technology .....	3
Area E. Historical Studies .....	3
Area F. Humanities .....	3
Area G. Arts.....	3
Area H. Ethnicity and Gender .....	3
<b>Library 110</b> .....	<b>1</b>
<b>Academic Electives</b> .....	<b>24-34</b>
<b>Theatre Courses (not to exceed 70 cr hrs)</b> .....	<b>60-70</b>
Core Requirements.....	22
Emphasis Requirements .....	38-48
<b>Total 125</b>	

## Requirements for the Bachelor of Music Education Degree

The bachelor of music education leads to an endorsement (certification) in vocal music, or instrumental music, or 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>General and Essential Studies Requirements</b> .....	<b>42</b>
All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259, unless noted otherwise below.	
Area A. Communication.....	6
ONE course must be selected from the ES requirement list.	
Area B. Mathematics and Statistics .....	3
Area C. Human Behavior, Culture, and Social Organization .....	6
Area D. Science and Technology .....	3
Area E. Historical Studies .....	3
Area F. Humanities.....	12
At least ONE course must be selected from the ES requirement list.	
Area G. Arts.....	6
ONE course must be selected from the ES requirement list.	
Area H. Ethnicity and Gender .....	3
<b>Library 110</b> .....	<b>1</b>
<b>Professional and Music Education Requirements</b> .....	<b>41</b>
<b>Music Endorsement Requirements</b> .....	<b>58</b>
NOTE: Some Music Endorsement Requirements also fulfill Essential Studies Requirements.	
<b>Total 130</b>	

## 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.

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.

Transfer students must take additional courses in their chosen major field (normally at least 9 hours) 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.** A single minor is completed and the requirements for individual minors are stated in the areas of study listings.

## Requirements for the Bachelor of Music Degree

	Hours
<b>Essential Studies Requirements</b> .....	<b>30-46</b>
All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.	
Area A. Communication.....	6
Courses must be in written communication.	
Area B. Mathematics and Statistics .....	3
Area C. Human Behavior, Culture, and Social Organization .....	9
Area D. Science and Technology .....	7
Area E. Historical Studies .....	6
Area F. Humanities .....	3
Area G. Arts.....	3
Additional hours required from Area F or G.....	6
Area H. Ethnicity and Gender .....	3
Area I. Languages, Classical and Modern .....	0-16
<b>Library 110</b> .....	<b>1</b>
<b>Academic Electives</b> .....	<b>3-24</b>
<b>Music Course Requirements</b> .....	<b>78-80</b>
<b>Music Core Curriculum</b> .....	<b>27</b>
<b>Musical Performance</b> .....	<b>31-38</b>
<b>Music Electives</b> .....	<b>12-15</b>
<b>Total 125-130</b>	

**Plan B.** Two minors are completed with fewer hours in each subject than the number required for a single minor. Hour requirements are stated in the areas of study listings. In support of certain majors, minors outside the Hixson-Lied College of Fine and Performing Arts are permitted under this plan. They include: agricultural economics (12 hours); civil engineering (16 hours); entomology (6 hours in courses numbered above 400); human resources and family sciences (textiles, clothing, and design [12 hours]; human development and the family [12 hours]); pharmacology (12 hours).

For the special requirements for the integrated studies minor see "Integrated Studies" on page 270.

## 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 integrated studies option (see "Integrated Studies" on page 270) 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

### Areas offering majors and minors

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### Area offering minor only

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## Bachelor of Fine Arts Degree

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Dance	277
Theatre Arts	277

## Bachelor of Music Degree

Music	270
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## Bachelor of Music Education Degree

Music Education (see Music)	270
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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 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.

## Art and Art History

**Chair:** Joseph M. Ruffo, 207 Nelle Cochrane Woods Art Building

**Professors:** Horvay, Jacobshagen, Kendall, Kunc, Mamiya, Read, Rowan, Ruffo

**Associate Professors:** Bartels, Fuller, Hoff, Stewart  
**Assistant Professors:** Bolland, Dominguez, Fritz, Ingraham, Neal, Pinnell, Sullivan

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 Memorial Art Gallery and Sculpture Garden, 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 gallery. Both serve as extensions of the studio and classroom learning experience. The Sheldon Memorial Art Gallery and Sculpture Garden, also schedules a bi-annual exhibition of the work of art department faculty members.

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.

**Art Collection.** The department reserves the right to retain two examples of art from each student for its collection.

**Pass/No Pass.** Students majoring in studio art may not take art courses for pass/no pass credit. Minors and art history majors may include up to 6 hours pass/no pass.

## Requirements for the Major in Art

### Bachelor of Arts Degree

	Hours
<b>Essential Studies Requirements</b> .....	<b>49-65</b>

*All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.*

Area A. Communication .....	6
Area B. Mathematics and Statistics .....	3
Area C. Human Behavior, Culture, and Social Organization .....	9
Area D. Science and Technology .....	7
Area E. Historical Studies .....	6
Area F. Humanities .....	3
Area G. Arts .....	3
An additional 6 hrs must be taken from either F or G for a total of 12 hrs in the Humanities and Arts .....	6
Area H. Ethnicity and Gender .....	3
Area I. Languages .....	0-16

<b>Library 110</b> .....	<b>1</b>
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<b>Art Theory and Practice</b> .....	<b>42</b>
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Visual Literacy .....	10
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Studio Electives .....	14
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*(At least 3 hrs of these studio electives must be in courses numbered above 299.)*

AHIS 101 and 102 .....	6
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Art History Electives .....	12
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*(At least 3 hrs of the 12 hrs must be in courses numbered above 299.)*

<b>Academic Electives</b> .....	<b>17-33</b>
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<b>Total hours required for graduation</b> ....	<b>125-130</b>
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A minor is required and may be any minor offered by the College of Arts and Sciences or the Hixson-Lied College of Fine and Performing Arts. Art history may be used only as a Plan B minor. No more than 4 hours among independent study courses (ARTP 395, 495, 496, 499H; AHIS 395, 490, 492, 495, 499H) may count toward the major in the BA degree.

### Bachelor of Fine Arts Degree

	Hours
<b>Essential Studies Requirements</b> .....	<b>30</b>

*All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.*

Area A. Communication .....	6
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Area B. Mathematics and Statistics .....	3
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Area C. Human Behavior, Culture, and Social Organization .....	6
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Area D. Science and Technology .....	3
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Area E. Historical Studies .....	3
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Area F. Humanities .....	3
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Area G. Arts .....	3
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Area H. Ethnicity and Gender .....	3
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<b>Library 110</b> .....	<b>1</b>
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<b>Art and Art History</b> .....	<b>88</b>
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Art History .....	15
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Art Theory and Practice .....	73
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<i>Including:</i>	
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Visual Literacy .....	10
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ARTP 140, 140L, 141, 141L	6
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Required Drawing .....	202
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Required Distribution .....	18
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SCLP 211, GRPH 221, CERM 231, PRNT 241, PANT 251, PHOT 261	
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Studio Emphasis or Electives .....	36
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ARTP 099 (0 cr), ARTP 400 (3 cr) .....	3
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<b>Academic Electives</b> .....	<b>6</b>
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<b>Total hours required for graduation</b> ....	<b>125-130</b>
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No more than 9 hours from among independent study courses (ARTP 395, 495, 496; AHIS 398, 490) may count toward the major in the BFA degree.

All candidates for the BFA in art are required to participate in a group exhibition of their major work. This "Capstone Senior Exhibition" takes place during the student's final year in the program, and is presented in the Gallery of the Department of Art and Art History.

## Requirements for the Major in Art History and Criticism

### Bachelor of Arts Degree

	Hours
<b>Essential Studies Requirements.....</b>	<b>49-65</b>
All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.	
Area A. Communication.....	6
Area B. Mathematics and Statistics .....	3
Area C. Human Behavior, Culture, and Social Organization .....	9
Area D. Science and Technology .....	7
Area E. Historical Studies .....	6
Area F. Humanities .....	3
Area G. Arts.....	3
An additional 6 hrs must be taken from either F or G for a total of 12 hrs in the Humanities and Arts.....	6
Area H. Ethnicity and Gender .....	3
Area I. Languages .....	0-16
<b>Library 110 .....</b>	<b>1</b>
<b>Art and Art History.....</b>	<b>39</b>
Art History courses .....	33
AHIS 101, 102.....	6
(15 cr hrs must be in courses numbered above 299)	
Studio Courses (Must be for grade only) .....	6
DESN 111.....	3
Electives.....	3
<b>Academic Electives.....</b>	<b>20-33</b>
<b>Total hours required for graduation....</b>	<b>125-130</b>

A minor is required and may be any minor offered by the College of Arts and Sciences or the Hixson-Lied College of Fine and Performing Arts. Studio Art may be used only as a Plan B minor. No more than 4 hours among independent study courses may count toward the major in the BA degree.

## Requirements for the Minor in Art or Art History

### Studio Minor

*Plan A:* 18 hours, including DRAW 101, DESN 111, AHIS 101, 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.

### 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.

**140. Visual Literacy I Lecture** (ARCH, IDES, TXCD 140) (1 cr) Prereq: Parallel ARTP 140L. *Open to art majors only or candidate for a teaching endorsement in art.* Introduction to critical and analytic skills in a variety of visual contexts. Focus on understanding modes of visual language, descriptive processes, and knowledge of contemporary and historical works and issues.

**140L. Visual Literacy I Lab** (ARCH, IDES, TXCD 140L) (4 cr) Prereq: Parallel ARTP 140. *Open to art majors only or candidate for a teaching endorsement in art.* Development of creative and perceptual analytic skills through problem solving in drawing and design with emphasis on materials, techniques, and aesthetics.

**141. Visual Literacy II Lecture** (ARCH, IDES, TXCD 141) (1 cr) Prereq: ARTP 140 and 140L; parallel ARTP 141L. *Open to art majors only or candidate for a teaching endorsement in art.* Continuation of ARTP 140.

**141L. Visual Literacy II Lab** (ARCH, IDES, TXCD 141L) (4 cr) Prereq: ARTP 140 and 140L; parallel ARTP 141. *Open to art majors only or candidate for a teaching endorsement in art.* Continuation of ARTP 140L.

**189H. University Honors Seminar** (2-3 cr) Prereq: Good standing in the University Honors Program. *University Honors Seminar 189H is required of all students in the University Honors Program.* Topic varies.

**199. Special Topics in Studio Art** (1-5 cr) Prereq: Permission.

**395. Internship in Art** (1-5 cr) Prereq: Junior standing in art and permission of department chairperson. *Can be taken P/N. Coordinated through the Internship and Cooperative Education Office.* Special placements in community, state, or federal institutions related to the students' area of emphasis or interests.

**399. Special Topics in Art** (1-5 cr) Prereq: Permission.

**400/800. Professional Practices for the Artist** (3 cr) Prereq: Junior standing and major in art, or permission. Practical guide to managing a career as an artist, including soliciting exhibitions, portfolio documentation and business transactions with galleries.

**495. Internship in Art** (1-5 cr) Prereq: Senior standing in art and permission of department chairperson. *Can be taken P/N. Coordinated through the Internship and Cooperative Education Office.* Advanced work in special internship placements.

**496. Problems in Studio** (1-4 cr, max 4) Prereq: Permission. Problems in technique and expression for the advanced undergraduate.

**499H. Honors: Special Problems** (1-4 cr) 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.

Refer to the Graduate Bulletin for 900-level courses.

### Art-Basic Design (DESN)

**[ES][IS] 111. Foundation Design** (3 cr)

Introductory studio course involving a comprehensive study of the elements and principles of design, with respect to two-dimensional and three-dimensional composition, utilizing black and white and color media.

### Art-Ceramics (CERM)

**[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 I** (3 cr) Prereq: ARTP 141, 141L, or permission.

Introduction to the construction of pottery and sculptural clay forms with an overview of the history, aesthetics, and criticism of ceramic artwork.

**[ES] 232. Beginning Ceramics II** (3 cr) Prereq: CERM 231, or permission.

Continuation of CERM 231.

**331. Intermediate Ceramics I** (3 cr) Prereq: CERM 232, or permission. Continuation of CERM 232.

**332. Intermediate Ceramics II** (3 cr) Prereq: CERM 331 or permission. Continuation of CERM 231.

**431. Advanced Ceramics I** (3 cr) Prereq: CERM 332 or permission. 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 II** (3 cr) Prereq: CERM 431 or permission. Continuation of CERM 431.

**831. Ceramics I** (1-6 cr)

**832. Ceramics II** (1-6 cr)

Refer to the Graduate Bulletin for 900-level courses.

### Art-Drawing (DRAW)

**[ES] 101. Beginning Drawing I** (3 cr)

Fundamental principles of drawing and perspective based on observation and imagination.

**[ES] 102. Beginning Drawing II** (3 cr) Prereq: DRAW 101 or permission. Continuation of DRAW 101.

**[ES] 201. Intermediate Drawing** (3 cr) Prereq: ARTP 141, 141L, or permission. 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)

Refer to the Graduate Bulletin for 900-level courses.

### Art-Graphic Design and Illustration (GRPH)

**[ES] 221. Beginning Graphic Design** (3 cr) Prereq: ARTP 141 and 141L, or permission.

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 141 and 141L, or permission.

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.

**325. Art of the Book** (3 cr) Prereq: GRPH 221 or permission. Introduction to the design and production of books in the tradition of the private press. Hand type composition, letter-press printing (techniques include woodcut, lino, and relief engraving), and bookbinding.

[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.

**425/825. Advanced Art of the Book** (3 cr) Prereq: GRPH 325 or permission.

Advanced work in the design and production of handmade books in the tradition of limited edition and unique books.

**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)

Refer to the Graduate Bulletin for 900-level courses.

## Art-Painting (PANT)

[ES] **251. Beginning Painting I** (3 cr) Prereq: ARTP 141 and 141L, or permission.

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)

Refer to the Graduate Bulletin for 900-level courses.

## Art-Photography (PHOT)

[ES] **161. Beginning Photography I** (3 cr)

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) Prereq: DESN 111, ARTP 141 and 141L, or permission.

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** (1-24 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** (1-24 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.

Refer to the Graduate Bulletin for 900-level courses.

## Art-Printmaking (PRNT)

[ES] **241. Beginning Printmaking I** (3 cr) Prereq: ARTP 141 and 141L, or permission.

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.

**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)

Refer to the Graduate Bulletin for 900-level courses.

## Art-Sculpture (SCLP)

[ES] **211. Beginning Sculpture I** (3 cr) Prereq: ARTP 141 and 141L, or permission.

Introduction to sculpture. Exploration of traditional and new materials and techniques.

[ES] **212. Beginning Sculpture II** (3 cr) Prereq: SCLP 211. Continuation of SCLP 211.

**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)

Refer to the Graduate Bulletin for 900-level courses.

## Art-Special Topics (ARTS)

**199. Special Topics in Studio Art** (1-5 cr) Prereq: Permission.

**399. Special Topics in Art** (1-5 cr) Prereq: Permission.

## Art-Watercolor (WATC)

[ES] **257. Beginning Watercolor I** (3 cr) Prereq: ARTP 141 and 141L, or permission.

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)

Refer to the Graduate Bulletin for 900-level courses.

## Art History and Criticism (AHIS)

**099. Comprehensive Examination** (0 cr) Prereq: Senior standing and permission. *Exam must be taken in the final year and passed to receive a bachelor of arts degree in art history. P/N only.* Comprehensive examination in art history.

[ES] **101 [101x]. 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.

[ES] **102. Introduction to Art History and Criticism II** (3 cr)

Survey of the history of art from the Renaissance period to the present.

**189H. University Honors Seminar** (2-3 cr) Prereq: Good standing in the University Honors Program. *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) 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. Art in the United States** (3 cr) Prereq: Sophomore standing. Survey of the major artists, movements, and monuments from colonial beginnings to the present.

[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.

**298. Special Topics in Art History** (1-3 cr) 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.

**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 13th century to the end of the 15th 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 15th to the mid-16th century.

[ES] **341. European Art of the Nineteenth Century** (3 cr) From Neoclassicism through Post-impressionism.

**346. European Art of the Twentieth Century** (3 cr) Prereq: AHIS 102 or 246. European art from 1870 to 1945, focusing on the development of avant-gardism, and on the relationship between art and its historical context.

[ES] **388. Arts of the 20th Century: 1900-1945** (MUSC, THEA 388) (3 cr) AHIS 388 will not count towards the major in studio art and/or art history.

Interdisciplinary approach to the enjoyment and understanding of the contemporary arts during the first half of the twentieth century.

[ES] **389. Arts of the 20th Century: 1945-Present** (MUSC, THEA 389) (3 cr) AHIS 389 will not count towards the major in studio art and/or art history. Interdisciplinary approach to the enjoyment and understanding of the contemporary arts since 1945.

**390. Directed Individual Readings** (1-24 cr) Prereq: Junior standing with permission.

**392. Individual Research in Art History** (1-24 cr) Prereq: Permission of the department chairperson.

**395. Internship in Art History** (1-5 cr) Prereq: Junior standing and permission of department chairperson.

**398. Special Topics in Art History** (1-3 cr) Prereq: Permission.

**411/811. Classical Architecture** (3 cr) Prereq: 12 hrs in art history or in related disciplines with permission.

History and development of architectural orders and styles from ancient Greece and Italy.

**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 avant-gardism 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 avant-gardism, 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.

**451/851. American Painting** (3 cr) Prereq: 12 hrs in the history of art or in related disciplines with permission. From Copley to the American scene painters of the 1930s.

**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** (1-4 cr, max 4) Prereq: Permission of department chair. AHIS 498/892 is letter grade only for graduate students.

**492/892. Individual Research in Art History** (1-4 cr, max 4) Prereq: Permission of the department chairperson. Grade only for graduate students.

**495/895. Internship in Art History** (1-5 cr) Prereq: Senior standing and permission of department chairperson.

**498/898. Special Topics in Art History** (1-3 cr) Prereq: Permission.

**499H. Honors: Special Problems in Art History** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and 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.

## Business

### (Minor only)

**Adviser:** D'vee Buss, Director of Undergraduate Programs, 138 College of Business Administration

### Minor in General Business (Plan A only) (Bachelor of Arts in Music: Business Emphasis)

The College of Business Administration has joined with the College of Arts and Sciences and the Hixson-Lied College of Fine and Performing Arts to offer a minor in general business to students in these latter two colleges. As a prerequisite to the minor, students are required to complete 12 credit hours of **foundation courses** in math, statistics, and economics and to pass MNGT 198D. Students in the College of Arts and Sciences and in the Hixson-Lied College of Fine and Performing Arts will find that these foundation courses will apply toward their liberal education requirements. After completing the required foundation courses, students complete 18 credit hours in **business core courses** which will provide the 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.

### Pass/No Pass

Not allowed for foundation courses or business core courses.

### Required Foundation Courses

	Hours
MATH 104 or 106 Calculus.....	*3
ECON 215 or STAT 180 or STAT 380.....	*3
ECON 211 and 212 Principles .....	6
MNGT 198D .....	*0
	<b>Total 12</b>

- \* Equivalent courses may be substituted for these specific courses.  
 \*\* This examination is offered by the College of Business through MNGT 198D which is a 1-credit-hour course. The credit, however, will not count toward the minor nor toward a degree.

## Required Business Core Courses

	Hours
ACCT 201 and 202 Principles (6 hrs) or ACCT 306 (4 hrs).....	4-6
FINA 361.....	3
<i>Prereq ACCT 201 &amp; ECON 211/212</i>	
MNCT or ECON 245 Quantitative Methods.....	3
<i>Prereq ECON 215*** &amp; MNGT 198D</i>	
MNGT 331 Operations .....	3
<i>Prereq ECON 215 and MNGT or ECON 245</i>	
MNGT 360 Human Resources.....	3
MRKT 341 .....	3
<i>Prereq ECON 211/212</i>	
<b>Total 19-21</b>	
<b>TOTAL FOUNDATION AND CORE ..... 31-33</b>	

\*\*\* STAT 180 or STAT 380 or equivalent courses may be substituted for the prerequisite of ECON 215.

## Dance

### Head: Lisa Fusillo, 219 Mabel Lee Hall

The Dance Program offers the bachelor of arts degree in dance.

### Pass/No Pass

Students majoring in dance may not take major courses for pass/no pass credit. Students are required to obtain permission from the chief adviser to take minor courses for pass/no pass credit. Request forms are available in the Dean's Office, 116 Architecture Hall.

### Requirements for the Major in Dance

#### Bachelor of Arts: Dance major requirements (52 cr)

##### A. Dance Technique (22 cr)

Technique requirements: Minimum of two technique courses per semester. All majors are required to enroll for both ballet and modern dance every semester.

##### B. Dance Theory, History, etc. (21 cr)

DANC 148. Music for Dance (2 cr)  
 DANC 159. Intro to Dance (3 cr)  
 DANC 238. Dance Injury Prevention (2 cr)  
 DANC 248. Creative Movement (2 cr)  
 DANC 338. Kinesiology for Dance (3 cr)  
 DANC 348. Pedagogy (3 cr)  
 DANC 359. History of Dance (3 cr)  
 DANC 459. Twentieth-Century Dance (3 cr)

##### C. Dance Composition (5 cr)

DANC 100. Dance Improvisation (1 cr)  
 DANC 200. Composition I (2 cr)  
 DANC 300. Composition II (2 cr)  
 DANC 460. Dance Performance (1 cr per sem, 8 cr max)

##### D. Dance Electives (4 cr min) (by permission only)

DANC 123. Jazz Dance I (1 cr)  
 DANC 124. Tap Dance I (1 cr)  
 DANC 233. Jazz Dance II (1 cr)  
 DANC 460. Dance Performance (1 cr per sem, 8 cr max)

## Requirements for the Minor in Dance

- 18 hours: 8 credit hours of dance technique including a total of 4 credit hours from both of the primary techniques (ballet and modern dance) and 4 credit hours selected from among the secondary techniques (tap, ethnic, folk, social, jazz/musical theatre).
- DANC 100, 159, 200
- Dance minors may also enroll for dance performance credits.

## Placement for Dance Technique Classes

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 February and March.

Students with little or no studio training should register for 100-level courses. New dance majors or students considering a major should consult the chief faculty adviser (ph: 472-5803).

## Courses of Instruction

### Dance (DANC)

#### 100. Dance Improvisation (1 cr)

Techniques in developing an understanding of the elements of movement through spontaneous and creative exploration.

#### 101. Principles of Ballet (1 cr) *For students with no previous ballet training*

Basic technique and practice of classical ballet with attention to an appreciation for the art form. Theory and historical perspectives.

#### 111. Ballet I (1 cr) *For students with some previous ballet training*

Classical ballet technique leading to an exact and proper application of the fundamentals and principles of ballet movement and vocabulary.

#### 112. Modern Dance I (1 cr)

Studio training in beginning modern dance technique with emphasis on mastering the fundamentals of movement. Exploration of style, phrasing, musicality, and personal interpretation of movement.

#### 123. Jazz Dance I (1 cr)

Introduction to the technique and style of contemporary jazz dancing.

#### 124. Tap Dance I (1 cr)

Introduction to tap dance technique. An activity course including basic technique, rhythmic perception, and history of the form.

#### 125. Ethnic Dance I (1 cr)

Concentrated study of ethnic dance forms from a single region of the world.

#### 126. Folk Dance I (1 cr)

Survey of traditional communal dances of the world.

#### 127. Social Dance I (1 cr)

Introduction to popular forms of social dance.

#### 148. Music for Dance (1 cr) Prereq: MUSC 171 or 276 or permission.

Rhythmic analysis, accompaniment techniques for dance, music resources and the interrelationship of sound to movement.

#### [ES][IS] 159. Introduction to Dance (3 cr)

Historical survey and critical examination of the art of dance designed to develop an understanding and appreciation of the various forms of dance.

#### 200. Composition I (2 cr) Prereq: DANC 100 or permission.

Structural organization of the elements of movement.

#### 211. Ballet II (2 cr) Prereq: DANC 111 or permission.

Application and expansion of the principles of classical ballet technique and vocabulary.

#### 212. Modern Dance II (2 cr) Prereq: DANC 112 or permission.

Expansion of the vocabulary and concepts of the modern dance idiom.

#### 223. Jazz Dance II (1 cr) Prereq: DANC 123 or permission.

Jazz technique and theory emphasizing style and execution.

#### 224. Tap Dance II (1 cr) Prereq: DANC 124 or permission.

Intermediate techniques of tap dance.

#### 227. Social Dance II (1 cr) Prereq: DANC 127 or permission.

#### 238. Dance Injury Prevention (2 cr)

Analysis of the causes, treatment methods and prevention of dance-related injuries. Includes human musculoskeletal system in order to understand anatomically-sound methods of dance training for injury prevention.

#### 248. Creative Movement for Children (2 cr)

Applications of dance theory and practice in developing creative movement experiences for children.

#### 300. Composition II (2 cr) Prereq: DANC 100 and 200 or permission.

Theory and practice in the craft of dance composition emphasizing concepts, content, and their perceptual validity through movement.

#### 311. Ballet III (2 cr) Prereq: DANC 211 and permission.

Continuation of DANC 211 with further application of the classical ballet syllabus.

#### 312. Modern Dance III (2 cr) Prereq: DANC 212 and permission.

Continuation of DANC 212.

#### 323. Jazz Dance III (2 cr) Prereq: DANC 223 and permission.

Intensive jazz course emphasizing advanced skills and performance styles.

#### 324. Tap Dance III (1 cr) Prereq: DANC 224 or permission.

Advanced tap dance technique, rhythmic skills, the development of sequences.

#### 338. Kinesiology for Dance (3 cr)

Biomechanical principles affecting the structure and function of the musculoskeletal system with laboratory application of these principles specifically related to the dancer's training.

#### 348. Dance Pedagogy (3 cr) Prereq: Junior standing; one 300-level technique course; and permission.

Methods and materials for the teaching of dance, including an analysis of alignment and the theory and execution of technique.

#### [ES][IS] 359. History of Dance (3 cr)

History of dance from aboriginal cultures through ancient cultures, the Middle Ages, the Renaissance, and the Romantic Era, culminating with the emergence of classical ballet in Russia. Emphasis on relationship between dance and culture.

#### 400. Choreographic Studies (2 cr) Prereq: DANC 300 and permission.

Advanced application of the elements of composition. Focus on individual student problems, choreographic research and a total choreographic effort.

#### 411. Ballet IV (2 cr) Prereq: DANC 311 and permission.

Application of advanced classical ballet technique including pointe technique and performance styles.

#### 412. Modern Dance IV (2 cr) Prereq: DANC 312 and permission.

Application of advanced modern dance techniques to styles of performance. Includes repertory work and extended preparation of complex movement phrases.

#### 420. Partnering (2 cr) Prereq: DANC 411 and permission.

Fundamentals and application of partnering skills in classical and contemporary dance.

#### 423. Musical Theatre Styles (2 cr) Prereq: DANC 124, and 223, or permission.

Performance styles and repertory from the American Musical Theatre tradition.

#### 438. Ideokinetics (2 cr) Prereq: DANC 338.

Philosophy and application of ideokinetic principles for neuromuscular education. Focuses on balancing muscle action, reducing tension, and increasing movement efficiency.

#### 448. Practicum in Dance Teaching (1-3 cr, max 6) Prereq: DANC 348 and permission.

Supervised application of pedagogic principles.

[ES][IS] **459. Twentieth-Century Dance** (3 cr) Prereq: Junior standing. Continuation of DANC 359, examining the development of western theatrical dance in the 20th century.

**460. Dance Performance** (1 cr sem, max 8) Prereq: Open to dance majors or minors; others by permission. Active participation in UNL Theatre and Dance productions.

[IS] **469. Seminar in Dance** (3 cr) Prereq: Senior standing and DANC 159 and 359. 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.

**486. Advanced Project in Dance** (3 cr) Prereq: Senior standing and permission of faculty committee. Analysis and annotation of a major original choreographic work, a solo performance in a major dance work, or an advanced research study.

**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.

## Integrated Studies

The Hixson-Lied College of Fine and Performing Arts major or minor in Integrated 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. Integrated Studies programs replace conventional majors and/or minors. A program must center around a clearly defined problem area, a defined body of thought, or a specific educational goal. However, in addition, all College requirements (including liberal education requirements) must be fulfilled.

An Integrated Studies program must be submitted on a form available in the Dean's Office, 116 Architecture Hall; it must be approved and signed by the adviser and dean, and filed with the Office of Registration prior to the time of the student's senior check.

Students with interests or educational objectives that 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 concern, are encouraged to consider this degree option. Interested students should contact the chief adviser for the program, 116 Architecture Hall.

The program is not intended to allow students to graduate without concentrating their thoughts in some clearly defined pattern; students considering an Integrated Studies major should be able to define a specific area of interest. 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 Integrated Studies major. Each major 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: film studies, biomedical illustration, and arts management.

## Requirements for the Major in Integrated Studies

1. Selection of at least 50 hours of courses representing an integrated study of some area, topic, or problem.
2. At least 15 of the 50 or more hours must be in one department in the College.
3. Approval of the program no later than the second semester of the junior year.

The academic adviser is responsible for coordinating the program with other concerned departments. Courses outside the Hixson-Lied College of Fine and Performing Arts may be applied to the 50 hours when they contribute directly and necessarily to the program. Before designing programs with large numbers of hours outside the College, students should inquire in the Dean's Office.

**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.

## Requirements for the Minor in Integrated Studies

A minimum of 25 hours including at least 10 in one Hixson-Lied College of Fine and Performing Arts department. The Integrated Studies minor is intended for use by students completing a major in one of the departmental programs who wish to supplement that major with work in an identifiable area of study not represented by established departmental minors. Courses outside the College may be used provided they contribute necessarily to the intent of the minor. Normally, at least half of the total number of hours constituting the minor programs should be in the College. Integrated Studies minors must be approved by the adviser of their program, subject to the policy of their major department regarding Integrated Studies minors. A description of the Integrated Studies minor, a listing of each course in the minor, and the adviser's approval, must be submitted for approval by the dean of the Hixson-Lied College of Fine and Performing Arts, 116 Architecture Hall.

## Music

**Director:** Lawrence R. Mallett, D.M.A., 120 Westbrook Music Building

**Professors:** Bailey, Curtright, Echols, Emile, Faulkner, Fought, Harler-Smith, Lefferts, Mallett, Michel, Nierman, Ritchie, Rometo, Snyder

**Associate Professors:** Cole, French, Kloecker, Kraus, McMullen, Moore, Neely, Starr, R. White

**Assistant Professors:** Anderson, Barnes, Becker, Cawein, Clinton, Cochran, Eklund, Potter, Reinhardt, Reist, Shomos, Smith, D. White, T. White

The School of Music offers a variety of courses and programs to students on the University campus. Three major programs are available. Students who wish to include a substantial program of music study in their bachelor of arts degree may pursue a major requiring about three years of music study. 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 are generally held January–March.

**Pass/No Pass.** Applied music lessons are offered for grade only. Permission to take other music courses pass/no pass must be obtained from the instructor. Request forms are available in the Dean's Office, 116 Architecture Hall.

**Applied Music.** Registration for applied music lessons is possible only after an audition before a group 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 April 1. (Students interested in a music scholarship should audition and apply for scholarship consideration before April 1.) 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.

**Beginning Applied Music.** For information on lessons for beginners, see course description under Applied Music.

## 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. The jury members in each area will use a "general consensus" approach in determining the grade. A no-pass on the UDQJ will indicate an interpretation by the faculty that the student has not completed the requirements for the applied grade, resulting in a formal grade of **incomplete**. The student then has two additional juries to remove the incomplete by passing the UDQJ. Once that occurs, the student will be permitted to register for 300-level applied music. If not, the one-year time limit on the incomplete will run out, causing the grade to revert to a

D or an F. The student may continue to register for applied study at the 200 level until the incomplete is removed.

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 Piano Skills (MUSC 232), or pass the piano proficiency exam, and Musicianship IV (MUSC 266 and MUSC 266A) to be admitted into 300- or 400-level music courses.

## Music Degree Requirements

### Requirements Common to All Music Degrees (BA, BM, BME)

#### 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> .....	<b>27</b>
MUSC 131.....	1
MUSC 132.....	1
MUSC 144.....	1
MUSC 165.....	2
MUSC 165A.....	1
MUSC 166.....	2
MUSC 166A.....	1
MUSC 174.....	1
MUSC 265.....	3
MUSC 265A.....	1
MUSC 266.....	*3
MUSC 266A.....	*1
MUSC 278.....	3
MUSC 365.....	3
MUSC 366.....	3
<b>MUSR 068 Recitals (7 semesters)</b> .....	<b>**0</b>
<b>Piano Proficiency</b> .....	<b>0-2</b>
<b>Dictation (voice majors only)</b> .....	<b>0-2</b>
MUAP 005 (125).....	***0-1
MUAP 006 (126).....	***0-1
*not required for BA-technology emphasis or BA-business emphasis	
**BA-technology emphasis and BA-business emphasis require 5 semesters	
***1 cr for BA or BM; 0-1 cr for BME	

#### Additional 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.

#### Additional Options: BA/Business

**Emphasis** (see "Minor in General Business (Plan A only) (Bachelor of Arts in Music: Business Emphasis)" on page 268)

#### Summary of requirements—minimum 125 or 130 hrs; see "General Requirements for Graduation" on page 258.

	Hours
<b>A. General Studies</b> .....	<b>65-87</b>
Minor area(s).....	18-24
Essential Studies Requirements.....	46-62
<i>All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.</i>	
Area A. Communication.....	6
Area B. Mathematics & Statistics.....	3
Area C. Human Behavior, Culture, & Social Organization.....	9
Area D. Science & Technology.....	7
Area E. Historical Studies.....	6
Area F. Humanities.....	*3
Area G. Arts.....	*3
Area H. Ethnicity & Gender.....	3
Area I. Languages-Classical/Modern .....	0-16
<i>*Areas F and G combined must total 12 hrs.</i>	
Library 110 .....	1

	Hours
<b>B. Musical Performance</b> .....	<b>18</b>
<i>Performance Track</i>	
Applied .....	12
Ensemble.....	.6
<i>Research Track</i>	
Applied .....	10
Ensemble.....	.6
Document.....	2

#### Additional Requirements for the Bachelor of Music Degree

#### Summary of requirements—minimum 125 or 130 hrs; see "General Requirements for Graduation" on page 258.

	Hours
<b>A. General Studies</b> .....	<b>31-52</b>
Essential Studies Requirements.....	30-46
<i>All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259.</i>	
Area A. Communication.....	6
<i>Courses must be in written communication.</i>	
Area B. Mathematics & Statistics.....	3
Area C. Human Behavior, Culture, & Social Organization.....	6
Area D. Science & Technology.....	3
Area E. Historical Studies.....	3
Area F. Humanities.....	3
Area G. Arts.....	3
Area H. Ethnicity & Gender.....	3
Area I. Languages-Classical/Modern .....	0-16
Library 110 .....	1
Academic Electives .....	0-21

	Hours
<b>B. Musical Performance</b> .....	<b>31-38</b>

Applied major area (300- and 400 levels taken for 3 cr) .....

    20

Piano Proficiency.....

    .2

    MUAP 231 (1 cr)

    MUAP 232 (1 cr)

    Applied minor area .....

    2-4

    MUSR 090 (Junior Recital) .....

    .0

    MUSR 490 (Senior Recital) .....

    1-3

    Ensemble .....

    .8

**C. Pedagogy** .....

    2-3

    MUSC 424 (Piano) or

    MUSC 462 (WW/Brass/Perc/Strings—see

    D below) or

    MUSC 470 (Voice) or

    MUSC 471 (Voice) or

    MUSC 474 and MUSC 475 (Organ)

#### E. Capstone Course.....

    MUSC 445

#### F. Music Electives.....

    8-15

*Including one course from the following: MUSC 382,*

    455, 480

#### Additional Requirements for the Bachelor of Music Education Degree

This degree leads to endorsement (certification) in vocal and instrumental music with an emphasis in choral or instrumental music.

#### Summary of requirements—minimum 127 hours

	Hours
<b>A. General Studies</b> .....	<b>42</b>
Essential Studies Requirements.....	42

*All courses must be selected from the lists found under "Essential Studies [ES] Requirements for the Bachelor of Arts Degree" on page 259, unless noted otherwise.*

*Courses from a student's major(s) may also be used toward meeting Essential Studies requirements. Six of the courses below (not counting music courses) must be designated as Integrative Studies [IS] courses*

Area A. Communication.....	6
<i>Only one course must be ES.</i>	
ONE course must be selected from ENGL 101(ABDH), 102(ABDH), 150, 150H, 151, or 151H.	

    ONE course must be selected from COMM 109, 205, 209, 210, 212, or 311.

Area B. Mathematics & Statistics.....	3
Area C. Human Behavior, Culture & Social Organization.....	6
<i>ONE course must be either CURR 330 or SOCI 217.</i>	

    Area D. Science & Technology.....

    3

    Area E. Historical Studies .....

    3

    Area F. Humanities.....

    12

*Only one course must be ES.*

*6 credits from music core courses (music history);*

*At least ONE course must be a literature course from English (usually with middle digits 2 or 5).*

    Area G. Arts.....

    6

*3 credits from music ensembles.*

*One course must be MUSC 278.*

    Area H. Ethnicity & Gender.....

    3

*Course must be MUSC 280.*

**Library 110.....**

    1

**NOTE:** Some Music Endorsement Requirements also fulfill Essential Studies Requirements.

#### 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.

EDUC 131 (preferred for first-year students) or

    CURR 331 (junior or above).....

    3

EDPS 250 or 251.....

    3

MUED 282.....

    1

MUED 297.....

    1

MUED 322 .....

    3

MUED 344 .....

    3

MUED 345 .....

    2

MUED 346 .....

    2

MUED 397A.....

    1

MUED 397B or 397D.....

    1

MUED 403 .....

    1

MUED 410 or 411 .....

    2

MUED 412 or 413 .....

    2

MUED 435 or 437 .....

    1

MUED 456 or 461 .....

    2

MUED 470 .....

    3

MUED 497D or T.....

    7

Admission to the Music Teacher Education Endorsement Program is required prior to the following:

MUED 322 .....

    3

MUED 344 .....

    3

MUED 345 .....

    2

MUED 346 .....

    2

MUED 397A.....

    1

MUED 397B or 397D.....

    1

MUED 403 .....

    1

MUED 410 or 411 .....

    2

MUED 412 or 413 .....

    2

MUED 435 or 437 .....

    1

MUED 456 or 461 .....

    2

MUED 470 .....

    3

MUED 497D or T.....

    7

MUED 497D or T .....	1
MUED 497Y .....	1
MUED 497Z .....	1
<b>C. Music Endorsement Requirements .....</b>	<b>31</b>
Music, Vocal & Instrumental (Grades K-12):	
Music Studies .....	2
MUSC 466	
Applied Music .....	22
Major instrument study 14 hrs (if piano 12 hrs major study & 2 hrs MUSC 440)	
MUAP 231 & 232 or demonstrated proficiency	
MUAP 235, 236, 237, 238, 239, 240	
Ensembles .....	7
Recital (MUSR 090 or 091) .....	0

## Additional Bachelor of Music Education Degree Requirements

Admission to the Music Teacher Education Program is competitive and enrollment is limited. An application form may be obtained from the School of Music Office and must be completed by the end of the semester preceding the semester in which the first upper division methods course (MUED 322) is taken. Selection is based upon the following criteria:

1. Completion of at least 42 credit hours with a minimum 2.5 GPA.
2. Completion of EDUC 131 or CURR 331 and EDPS 250 or 251 with a C+ cumulative average in the two classes, and no grade lower than C.
3. Passing scores on the PreProfessional Skills Test.
4. Completion of one course in communication studies selected from 109, 205, 209, 210, or 311, or approved substitute.
5. Demonstration of professional promise which includes successful completion of: a) Requirements for Continuing Study Toward a Music Degree, and b) Level II Practicum Experience (MUED 297).

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 in the School of Music Office, 120 Westbrook, by the preceding March 1. Students who plan to student teach during the spring semester must apply by the preceding October 1. 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 2.50 GPA.
4. Senior check (after completion of 80 or more hours) on file in the School of Music Office.
5. Minimum average of C+ (2.50) in professional and music education courses required in the student's program, with no grade below C.
6. Minimum average of C+ (2.50) in music endorsement courses required in the student's program, with no grade below C.
7. Completion of methods courses and Level III Practicum Experience required for endorsement with a minimum grade of C+ in all courses.

The basic program for student teaching in music provides for a full-day experience on a semester basis.

## Requirements for the Minor in Music (Plan A only)

- Students **must audition** for School of Music faculty for acceptance as a minor in music.
- 19 hours including two semesters of MUSR 068 (0 cr), 4 hours of consecutive courses in minor applied music classes, 4 hours of approved ensemble courses (for requirements see "Ensemble (MUEN)" on page 275), and 11 hours of music courses: MUSC 131, 144, 165, 165A, 166, 166A, and 278. MUSC 165/165A (fall semester) and 166/166A (spring semester) must be taken in the same academic year.

Music minors are exempt from the concurrent requirements in the Core Curriculum listed below, with the following exceptions: MUSC 165A must be taken with 165, and 166A must be taken with 166.

## Courses of Instruction

### Core Curriculum (MUSC)

- 131. Keyboard/Aural Skills** (1 cr) Parallel with MUSC 144, 165, 165A, and 278.  
Guided practice in the use of the piano for the application of theoretical concepts including the development of proper keyboard technique and music reading skills. Introduction to aural dictation skills.
- 132. Keyboard/Aural Skills II** (1 cr) Prereq: MUSC 131. Parallel with MUSC 166 and 166A.  
Continued guided practice in the use of the piano for the application of theoretical concepts including the development of proper keyboard technique and music reading skills. Continued guided practice in aural dictation.

- 144. Introduction to Undergraduate Music Studies** (1 cr) Parallel with MUSC 131, 165, 165A, and 278.  
Introductory course focusing on professional directions in music including music education (K-12), performance, composition and arranging, commercial music, arts administration, music therapy and college teaching.

- 165. Musicianship I** (2 cr) Prereq: Permission. Parallel with MUSC 131, 144, 165A, and 278.  
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. Laboratory-Musicianship I** (1 cr) Parallel with MUSC 131, 144, 165, and 278.  
Intensive drill in skills (ear training, sight singing, and keyboard) to accompany MUSC 165.

- 166. Musicianship II** (2 cr) Prereq: MUSC 165 or permission. Parallel with MUSC 166A.  
Continued study of diatonic harmony; introduction to modulation; species counterpoint; introduction to form and analysis (compositional processes and small forms).

- 166A. Laboratory-Musicianship II** (1 cr) Parallel with MUSC 166.  
Intensive drill in skills (ear training, sight singing, and keyboard) to accompany MUSC 166.

- 174. Beginning Conducting** (1 cr) Prereq: MUSC 166 or 166A or permission.  
Introduction to the basics of conducting including score analysis, score reading, baton technique, traditional patterns and expressive use of gesture.

- 265. Musicianship III** (3 cr) Prereq: MUSC 166 or permission. Parallel with 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 with MUSC 265.  
Intensive drill in skills (ear training, sight singing, and keyboard) to accompany MUSC 265.

- 266. Musicianship IV** (3 cr) Prereq: MUSC 265 or permission. Parallel with 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 with MUSC 266.  
Intensive drill in skills (ear training, sight singing, and keyboard) to accompany MUSC 266.

- [ES][IS] 278. Analytical Listening to Music Literature** (3 cr) Prereq: Open to music majors and minors only.  
Through directed listening to compositions chosen both from western and non-western cultures, this course attempts to teach music students 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.

- [IS] 365. Music History and Literature I** (3 cr) 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) 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.

- [ES][IS] 370H. Honors: Women Making Music** (3 cr) Prereq: Good standing in the University Honors Program or by permission.  
Popular and art music from the perspective of women.

- 494/894. Music Internship** (1-3 cr) 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.

- NOTE:** See listings under *Composition, Theory of Music, and Music Education* for MUSC 368, 369, 382, 445, 453, and 454, as required to complete core requirements.

### Composition (MUCP)

- A student may have an emphasis in music composition. With the permission of the composition faculty, up to 16 hours credit may be substituted for the applied music requirement. Bachelor of music with emphasis in composition students will usually concentrate their applied music study in one area.

- 183-184. Composition** (2 cr) 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.

- 283-284. Composition** (2 cr) Prereq: MUSC 184 or permission.

- 382. Fundamentals of Composition** (3 cr) 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.

- 383-384. Composition** (2-3 cr) Prereq: MUSC 284 or equivalent and permission.

**483-484. Composition** (2-3 cr) Prereq: MUSC 384 or permission.

Refer to the Graduate Bulletin for 900-level courses.

### Independent Study, Seminars, or Thesis (MUSC)

[ES][IS] **189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. Topic varies.

**198. Special Topics in Music** (1-4 cr)

**398. Special Topics in Music** (1-3 cr) Prereq: Permission. Investigation of selected topics in music.

**499. Undergraduate Thesis** (3 cr) Prereq: Permission.

**499H. Honors: Special Problems** (1-4 cr) Prereq: Open candidates for degrees with distinction, with high distinction, and with highest distinction in the Hixson-Lied College of Fine and Performing Arts.

**898. Special Topics in Music** (1-3 cr) Prereq: Graduate standing and permission.

**899. Masters Thesis or Original Composition** (1-6 cr)

Refer to the Graduate Bulletin for 900-level courses.

### Interdisciplinary Studies (MUSC)

**483/883. Physics of Music** (3 cr) Prereq: Advanced standing; experience with music. No special preparation in mathematics is necessary.

Basic physics of sound waves and vibrations and our perception of them; the physical analysis of music instruments; room acoustics; electronic and mechanical reproduction of music.

Refer to the Graduate Bulletin for 900-level courses.

### Music Education (MUED)

**282. Music Technology: An Introduction and Overview** (1 cr) Prereq: EDUC 131 or CURR 331 or permission. 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** (1-4 cr) Guided participation and/or observations in schools and/or agencies offering programs for children/youth.

**322. Foundations and Practices of Music Education** (3 cr) Prereq: Admission to the Music Teacher Education Program or permission.

Theory and practice of music education, philosophy, musical development, learning theories, curriculum and planning, classroom management, assessment and evaluation, education equity, and administration.

**344. General Music Methods and Materials** (3 cr) Prereq: Admission to the Music Teacher Education Program; MUAP 235. Parallel with MUED 322 and MUED 397A. Skills, knowledge, methods, and materials needed for successful teaching in the elementary and secondary general music setting.

**345. Instrumental Music Methods** (2 cr) Prereq: Admission to the Music Teacher Education Program; MUED 322, 344 and 397A; or permission. Parallel with MUED 346, and MUED 397B or 397D.

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** (2 cr) Prereq: Admission to Music Teacher Education Program; MUED 322, 344, and 397A; or permission. Parallel with MUED 345, and MUED 397B or 397D.

Choral music teaching methods at the elementary and secondary school level with an emphasis on various teaching strategies, rehearsal techniques, practical organization skills, and current trends.

**370. Elementary School Music** (3 cr) Prereq: Admission to the Teacher Education Program or permission. Designed for Teachers College 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.

**397. Professional Practicum Experiences** (1-10 cr, max 10) Prereq: Admission to the Music Teacher Education Program or permission. *P/N only.* Supervised teaching experiences in school.

**A. General Music** (1-10 cr) Parallel with MUED 344.

**B. Instrumental Music** (1-10 cr) Parallel with MUED 345.

**D. Choral Music** (1-10 cr) Parallel with MUED 346.

**403. Student Teaching Seminar** (1-2 cr)

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.

**410. Choral Conducting and Literature** (2 cr) Prereq: Admission to the Music Teacher Education Program, MUAP 235, MUED 346; or permission. Parallel with MUED 412, 437 and 456.

Choral conducting, score preparation, literature analysis, and vocal development related to the school choral program.

**411. Instrumental Conducting and Literature** (2 cr)

Prereq: Admission to the Music Teacher Education Program, MUAP 236, 237, 238, 239, and 240, MUED 345; or permission. Parallel with MUED 413, 435, and 461.

Techniques of band and orchestral conducting. Analysis of literature related to the school instrumental music curriculum.

**412. Advanced Choral Methods** (2 cr) Prereq: Admission to Music Teacher Education Program and MUED 346, or permission. Parallel with MUED 410 and 456; MUED 437, 497D or 497T.

Advanced laboratory of secondary vocal rehearsal techniques, choral literature analysis, departmental administration, and classroom management approaches as related to the school vocal music curriculum.

**413. Advanced Instrumental Methods** (2 cr) Lab. Prereq: Admission to Music Teacher Education Program and MUED 345, or permission. Parallel with MUED 435 and 461; MUED 497D or 497T; and MUSC 411.

Advanced laboratory focused on secondary instrumental techniques, band and orchestral literature, departmental administration, and classroom management approaches as related to the school instrumental music curriculum.

**435/835. Instrumental Arranging** (1-3 cr) Prereq: Admission to the Music Teacher Education Program and MUED 345, or permission. Must be taken parallel with MUED 411, 413, and 461.

Instrumental arranging techniques including the application of the principles of orchestration and the instrumentation of harmonic and contrapuntal textures. Use of computer music notation software for arranging.

**437/837. Choral Arranging** (1-3 cr) Prereq: Admission to the Music Teacher Education Program and MUED 346 or permission. *Must be taken parallel with MUED 410 and 456.* Arranging for choral groups at professional, college, school, and amateur church choir levels. Groups include SATE, SAB, SSA, TTBB, and three-part equal voice. Emphasis on chord fundamentals, traditional and contemporary arranging devices, and analytical methods for selection of literature.

[ES][IS] **450/850. American Cultural Perspectives through Popular Music and Guitar** (CURR 450/850; MUNM 450) (3 cr)

Exploration of the historical, social and cultural context of late 19th and 20th century America through learning to play jazz and popular music on the guitar to provide an authentic, performance-based encounter in music.

**456/856. Planning and Production for the Musical Stage** (2-3 cr) Prereq: Admission to the Music Teacher Education Program; MUED 322, 344, 346, and 397A; or permission. Parallel with MUED 410, 412, and 437.

Survey of directing, selecting, casting, rehearsing, and producing school musical productions; public relations; promotion; group dynamics and leadership.

**461/861. Marching Band Techniques and Materials** (2-3 cr) Prereq: MUSC 376 or permission.

Discussion and simulation of approaches to the planning, rehearsing, and performance of school marching bands.

[IS] **470/870. Music for the Exceptional Child** (CURR \*870) (3 cr) Prereq: MUED 344 or permission.

Function and contribution of music in the education of the handicapped, providing methodology and materials to implement an effective music program. Detailed study and practicum for the development of musical experiences for exceptional students of all ages. Focuses on: PL 94-142 and PL 95-561, music IEPs, assessments, adaptations of curriculum materials, current methodologies, and research.

**473/873. Approaches to Middle School General Music** (3 cr) Prereq: MUED 344 (CURR 344) or permission.

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) Prereq: Admission to the Teacher Education Program or permission.

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) Prereq: MUED 482/882 or permission. 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) 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** (1-14 cr, max 14) *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**

**T. Secondary Music**

**Y. Mainstreaming**

**Z. Multicultural**

**834. Advanced Instrumental Conducting** (2-3 cr, max 6) Prereq: MUSC 376 or permission.

**843. Introduction to Research in Music Education** (CURR 843) (2-3 cr) Prereq: Undergraduate degree in music education or permission.

**845. Foundations for Graduate Study in Music Education** (CURR 845) (3 cr) Prereq: Undergraduate degree in music education or permission.

**862. Choral Literature for School Ensembles** (3 cr) Prereq: MUSC 375 or permission.

**863. Instrumental Literature for School Ensembles** (2-3 cr) Prereq: MUSC 376 or permission.

**881. Music in Early Childhood Education** (CURR 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.

### 277. Art Music in the Western World (MUNM 277) (3 cr)

For course description, see MUNM 277.

### 279. Music on the Great Plains (MUNM 279) (3 cr)

For course description, see MUNM 279.

### [ES][IS] 280. World Music (3 cr)

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.

### [IS] 449/849. Medieval Music (3 cr) Prereq: MUSC 366 or permission.

Historical and stylistic study of medieval music and its antecedents.

### 450/850. Johann Sebastian Bach (2-3 cr) 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 or graduate 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 (2-3 cr) Prereq: MUSC 366 and 387 or equivalent or permission.

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 Twentieth Century I (3 cr)

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 Twentieth Century II (3 cr)

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 or permission.

Forms, styles, composers, and aesthetics of the classic period.

### [IS] 486/886. Music of the Renaissance (3 cr) Prereq: MUSC 366 or permission.

Forms, styles, composers, and aesthetics of music of the Renaissance.

### [IS] 487/887. Music of the Baroque Era (3 cr) Prereq: MUSC 366 or permission.

Forms, styles, composers, and aesthetics of the Baroque Era.

### [IS] 488/888. Music of the Romantic Period (3 cr)

Prereq: MUSC 366 or permission.

Forms, styles, composers, and aesthetics of the Romantic Era.

### [IS] 489/889. American Music (3 cr) 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.

### 497/897. History of Wind Music (3 cr) Prereq: Senior or graduate standing.

Constitution, cultural settings, performance practices and literature of wind ensembles from the Middle Ages to the present.

### 836. Introduction to Graduate Studies in Music I (2 cr)

### 847. Graduate Review of Music History (3 cr)

\*879. Seminar: Topics in Music History (2-3 cr) Prereq: Permission. May be repeated for credit as topics may vary.

- |                |                      |
|----------------|----------------------|
| A. Medieval    | E. Classical         |
| B. Renaissance | M. Romantic          |
| D. Baroque     | N. Twentieth Century |

881. Music Bibliography (3-4 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)

Prereq: Ability to read standard musical notation.

For course description, see MUNM 168

### 268. Intermediate Jazz Improvisation (MUNM 268) (2 cr)

Prereq: MUSC 168 or permission.

For course description, see MUNM 268

### 361. Fundamentals of Piano Design and Mechanics (2 cr)

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)

Fundamentals of construction and maintenance of brass and woodwind instruments.

### 422/822. Keyboard Skills I (1 cr) Prereq: Permission.

Practicum in sight-reading, improvisation, harmonization, and playing by ear.

### 424/824. Piano Pedagogy I (3 cr) Prereq: 10 hrs undergraduate piano or equivalent or permission.

Pedagogical theories, practices, and related teaching materials dealing with the young beginner.

### 425/825. Piano Pedagogy II (3 cr) Prereq: MUSC 424/824 or permission.

Survey of current piano teaching courses with emphasis on individual instruction combined with theory and performance classes; detailed study of a single teaching course in preparation for teaching practica MUSC 426/826 and 427/827.

### 426/826. Piano Pedagogy III (3 cr) Prereq: MUSC 425/825 or permission.

Supervised student teaching of beginning pianists; observation of studio teaching of college students.

### 427/827. Piano Pedagogy IV (3 cr) Prereq: MUSC 426/826 or permission.

Continuation of MUSC 426/826; survey of college keyboard skills texts.

### 433/833. Keyboard Skills II (1 cr) Prereq: Permission.

Continuation of MUSC 422/822.

### 451/851. Music and the Church (3 cr) Prereq: MUSC 365 or RELG 150 or CLAS/JUDS/RELG 205 or CLAS/HIST/RELG 307, or permission.

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 ea)

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 |
| D. String Instruments           |
| E. Woodwind Instruments         |

### 463/863. Jazz Methods (2 cr) Prereq: MUSC 166 and 166A, or permission.

Jazz harmony, improvisation, and rhythm section techniques with emphasis upon execution and pedagogy.

### 467/867. Jazz Improvisation (3 cr) Prereq: MUSC 466/866 or equivalent or permission.

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)

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)

Prereq: 10 hours of applied organ or permission.

Comparison of the most important methods of designing and constructing organs in Europe and America from 1500 to the present.

### 470/870. Vocal Pedagogy I (3 cr) Prereq: Junior standing or above or permission.

Science of singing, including the physiology, functioning and acoustics of the singing voice. Emphasizes current research in the context of the historical development of vocal pedagogy.

### 471/871. Art Song I (3 cr) Prereq: Junior standing or above or permission.

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 or above or permission.

Intensive study of the German, French and American art song literature from the eighteenth century to the present.

### 474/874. The Organ and its Literature to 1800 (2-3 cr)

Prereq: 10 hrs organ or equivalent or permission.

Survey of the organ and its literature from ancient Greece to 1800, with emphasis on the interrelationships between the music and organ design.

### 475/875. The Organ and its Literature from 1800 to the Present (2-3 cr) Prereq: 10 hrs organ or equivalent.

Survey of the organ and its literature from 1800 to the present, with emphasis on the interrelationships between the music and organ design.

### 476/876. Piano Literature (3 cr) Prereq: 12 hrs undergraduate piano or permission.

Literature for solo piano from the early Baroque through the Twentieth Century, with emphasis on musical styles.

### 477/877. Piano Literature Seminar (3 cr, max 3) Prereq: 12 hrs undergraduate piano or permission.

Literature for solo piano. Specific style periods rotate.

- |                                  |
|----------------------------------|
| A. Baroque/Classical             |
| B. Romantic                      |
| D. Twentieth Century repertoire. |

### 495/895. Harpsichord and Other Stringed Keyboard Literature to 1750 (2-3 cr) Prereq: 12 hrs harpsichord or piano or permission.

Literature of stringed keyboard instruments from its beginnings to 1750 with emphasis on musical styles and performance.

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.

### [IS] 445. Analysis for Performance (3 cr) 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) Prereq: MUSC 366 or permission.

Counterpoint from the sixteenth through the twentieth century. Analysis of excerpts from the literature and composition of representative musical examples.

### 456/856. Analytical Techniques I (3 cr) Prereq: MUSC 366 or permission.

Overview of recent techniques for the analysis of tonal (common practice period) music. Critical evaluation of the theories of Schenker, Schönberg, Lewin, Meyer, Narmour and others; application of musical examples.

### 457/857 Analytical Techniques II (3 cr) Prereq: MUSC 366 or permission.

Overview of recent techniques for the analysis of twentieth-century music. Critical evaluation of the theories of Schönberg, Forte, Babbitt, Perle, Lewin, Morris and others; application of musical examples.

**480/880. Advanced Theory I** (3 cr) Prereq: MUSC 366 or equivalent. Analytical study of the compositional practices of late nineteenth-century European music with emphasis on chromatic harmony, and devices of tonal and motivic expansion. Analytical concepts of Schenker, Schönberg, and Hindemith; assignments in style imitation.

**496/896. Jazz Theory** (3 cr) Prereq: MUSC 366 or permission. Theoretical foundation of jazz composition and performance. Ear training and keyboard skills are emphasized.

#### 848. Graduate Review of Music Theory (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

### Opera/Music Theatre Performance (MUOP)

**156. Fundamentals of Opera/Music Theatre Performance** (2 cr) Prereq: Audition or permission. Basic music theatre performance training through the coordination of singing and movement.

**356. Intermediate Opera Performance Techniques** (2 cr) Prereq: MUSC 156 or permission. Techniques of recitative, aria, and ensemble preparation. Opera performance training through the coordination of singing, movement, and emotional expression.

**357. Music Theatre Performance** (1-3 cr) Prereq: Audition and permission. Preparation for and performance of a chorus, minor, or major role in a fully staged UNL Opera Theatre production.

**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" on page 270). 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 non majors, see listings under "Music for Nonmajors (MUNM)" on page 277.

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 270) 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 receive 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 \$20 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 \$75 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.

**005. Introduction to IPA, English and Italian Diction** (0 cr) *MUAP 005 must be taken during second semester of applied voice.*

**006. French and German Diction** (0 cr) *Must be taken during second year of applied voice.*

#### 032. Class Instruction in Piano (MUAP 232) (0 cr)

**101, 201** (1-2 cr), **301, 401** (1-3 cr) **Voice**  
**102, 202** (1-2 cr), **302, 402** (1-3 cr) **Piano**  
**103, 203** (1-2 cr), **303, 403** (1-3 cr) **Organ**  
**104, 204** (1-2 cr), **304, 404** (1-3 cr) **Harpsichord**  
**105, 205** (1-2 cr), **305, 405** (1-3 cr) **Violin**  
**106, 206** (1-2 cr), **306, 406** (1-3 cr) **Viola**  
**107, 207** (1-2 cr), **307, 407** (1-3 cr) **Cello**  
**108, 208** (1-2 cr), **308, 408** (1-3 cr) **Double Bass**  
**109, 209** (1-2 cr), **309, 409** (1-3 cr) **Harp**  
**110, 210** (1-2 cr), **310, 410** (1-3 cr) **Trumpet**  
**111, 211** (1-2 cr), **311, 411** (1-3 cr) **French Horn**  
**112, 212** (1-2 cr), **312, 412** (1-3 cr) **Trombone**  
**113, 213** (1-2 cr), **313, 413** (1-3 cr) **Baritone**  
**114, 214** (1-2 cr), **314, 414** (1-3 cr) **Tuba**  
**115, 215** (1-2 cr), **315, 415** (1-3 cr) **Flute**  
**116, 216** (1-2 cr), **316, 416** (1-3 cr) **Oboe**  
**117, 217** (1-2 cr), **317, 417** (1-3 cr) **Clarinet**  
**118, 218** (1-2 cr), **318, 418** (1-3 cr) **Bassoon**  
**119, 219** (1-2 cr), **319, 419** (1-3 cr) **Saxophone**  
**120, 220** (1-2 cr), **320, 420** (1-3 cr) **Percussion**

#### 122. Guitar (1-2 cr)

**125. Introduction to IPA, English and Italian Diction** (1 cr) *Must be taken during second semester of applied voice.*

**126. German and French Diction** (1 cr) *Must be taken during second year of applied voice.*

#### 222. Guitar (1-2 cr)

#### 231. Class Instruction in Piano (MUAP 032) (1 cr)

#### 232. Class Instruction in Piano (MUAP 032) (1 cr)

#### 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)

**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) **Baritone**  
**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)

### Ensemble (MUEN)

An audition is required for each musical ensemble, and students should consult ensemble directors to make appointments. Marching band auditions must be completed by July 1, and Scarlet and Cream auditions are held in early spring for the following fall. Auditions for other ensembles are held during the first week of each semester.

Ensemble registrations may be repeated for credit. Ensembles taken in excess of degree requirements will count only as electives.

**Requirement for Music Majors.** Every full-time music major student (12 credit hours or more) must perform in an ensemble. The requirements for each degree program are listed below. Students in the music education degree programs are exempt from ensemble participation during the semester in which they practice teach.

The following lists the various ensemble requirements by degree. Only one credit per semester counts toward the requirement, with the exception of instrumentalists during the semester of concert choir registration.

After the student has completed the minimum ensemble requirement for a degree, the student may participate in any ensembles listed below.

**NOTE:** Students must participate in a Group IA ensemble to fulfill the Group I requirement if it is not possible to accommodate the student in a Group I ensemble.

### Instrumental Degrees

**Group I:** Orchestra, Wind Ensemble, Jazz Ensemble I

**Group IA:** Concert Band, Symphonic Band, Jazz Ensemble II

**Group II:** Marching Band (max 1 cr), Jazz

Ensemble I, Orchestra (vocal majors only), Jazz Ensemble II, Concert Band (string and vocal majors only), Symphonic Band (string and vocal majors only), Campus Band (string & vocal majors only)

### Vocal Degrees

**Group I:** University Singers

**Group IA:** Concert Choir

**Group II:** Chorale, Varsity Glee, Scarlet and Cream (max 2 cr), Concert Choir (instrumental majors only), Jazz Vocal Ensemble

### Bachelor of Music

#### 1. Vocal Emphasis

1 credit Concert Choir

7 credits from Group I or

5 credits from Group I, and 2 credits from Group II

#### 2. Instrumental Emphasis (winds, strings, percussion)

1 credit Concert Choir

4 credits minimum from Group I (wind & percussion majors: min 3 cr in Wind Ensemble, Symphonic Band, or Orchestra)

3 credits from Group I, IA, or II

**3. Piano Emphasis**

1 credit Concert Choir  
 2 credits from Group I or IA  
 5 credits in accompanying (440A and 440B) and/or chamber music ensembles. (The student may opt to perform in an ensemble or to participate in the accompanying program during each semester following the completion of this requirement.)

**4. Organ Emphasis**

5 credits chosen from Concert Choir, University Singers, Music Theatre Performance  
 3 credits from 344A, 440A, 440B

**5. History and Literature Emphasis**

Students consult adviser for requirements

**6. Theory Emphasis**

Students consult adviser for requirements

**Bachelor of Music Education****Vocal & Instrumental K-12 Endorsement**

(max 6 credits in applied related ensembles)  
 1 credit Concert Choir  
 4 credits from Group I (wind & percussion majors: min 3 cr in Wind Ensemble, Symphonic Band, or Orchestra)  
 2 credits from Group II

**Bachelor of Arts**

1 credit Concert Choir  
 4 credits minimum from Group I (in applied area) (wind & percussion majors: min 2 cr in Wind Ensemble, Symphonic Band, or Orchestra)  
 1 credit from Group I, IA, or II (in applied area)

**Requirement for Music Minors.** Every music minor student must perform in an ensemble during each semester enrolled in applied music lessons.

**Music Minors****1. Vocal Emphasis**

4 credits from Group I, IA, or II

**2. Instrumental Emphasis**

4 credits from Group I, IA, or II

**3. Piano Emphasis**

4 credits from any Group I, IA, or II.

**4. Organ Emphasis**

4 credits from any Group I, IA, or II.

**NOTE:** After the minimum ensemble requirement has been completed, the student is free to participate in the ensemble of choice.

**NOTE:** Music majors and minors may enroll in an ensemble for zero (0) credit only when registered for another approved ensemble for credit, and must obtain written permission from the School of Music office.

**041. All-Collegiate Choir** (0 cr) *MUEN 041 is open to all students. No audition is required. Off-campus performance as approved by the instructor and the Director of the School of Music.* Standard choral works.

**042. Concert Choir** (0 cr) Prereq: Open to music majors, music minors, and non-music majors by audition to ascertain voice part or permission.

Concert choir seeks to encourage students to begin or continue their previous choral experience. Repertoire is chosen from the standard literature and concerts are restricted to on-campus appearances. Emphasis on building good reading and singing habits.

**043. Varsity Chorus** (0 cr) Prereq: Tenor or bass voice. *MUEN 043 is open to all students. No audition is required. Off-campus performance as approved by the instructor and the Director of the School of Music.* Tenor and bass choral literature chosen from folksongs, spirituals, Broadway and Cornhusker favorites.

**044A. Chamber Music I** (0 cr)

Quartets, trios, duos, and miscellaneous small vocal and instrumental ensembles organized for supervised and scheduled rehearsals of music appropriate for the ensemble. Off-campus performances as approved.

- B. Brass Choir
- D. Brass Ensemble
- G. Clarinet Choir
- J. Flute Ensemble
- K. Keyboard Ensemble
- N. Scarlet and Cream Singers
- P. Percussion Ensemble
- T. Saxophone Ensemble
- U. New Music Consort
- W. Chamber Wind Ensemble

**045. The University Singers** (0 cr) Prereq: Audition required. Repertoire taken from the choral literature of the Renaissance through contemporary periods. Performances on and off campus as approved by the instructor and the director of the School of Music.

**046. University Chorale** (0 cr)

Soprano and alto choral literature. Open by tryout or permission. Off-campus performances as approved by the instructor and the director of the School of Music.

**047. Orchestra** (0 cr) Prereq: Open upon examination. Playing and interpretation, including phrasing and the principles of orchestral technique. Performance of major orchestral works, and presentation of one of the grand operas, *Messiah*, spring oratorio, and other works with orchestral accompaniment in cooperation with choral groups. Off-campus performances as approved by the instructor and the director of the School of Music.

**048. Band** (0-1 cr) Prereq: Open by audition or permission of director of ensemble. Marching band audition must be completed by July 1.

- A. Wind Ensemble
- B. Symphonic Band
- D. Concert Band
- E. Campus Band
- G. Marching Band
- J. Pep Band

**050. Jazz Ensemble** (0 cr) Prereq: 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.* As approved by the Director of the School of Music.

Jazz instrumental and/or vocal ensembles of standard instrumentation and/or voicing.

- A. Jazz Ensemble I
- B. Jazz Ensemble II
- D. Jazz Vocal Ensemble
- E. Jazz Small Group

**241. All-Collegiate Choir** (1 cr) *MUEN 041 is open to all students. No audition is required. Off-campus performance as approved by the instructor and the Director of the School of Music.* Standard choral works.

**242. Concert Choir** (1 cr) Prereq: Open to music majors, music minors, and non-music majors by audition to ascertain voice part or permission.

Concert choir to encourage students to begin or continue their previous choral experience. Repertoire chosen from the standard literature and concerts are restricted to on-campus appearances. Emphasis on building good reading and singing habits.

**243. Varsity Chorus** (1 cr) Prereq: Tenor or bass voice. *MUEN 041 is open to all students. No audition is required. Off-campus performance as approved by the instructor and the Director of the School of Music.* Tenor and bass choral literature chosen from folksongs, spirituals, Broadway and Cornhusker favorites.

**245. The University Singers** (1 cr) Prereq: Audition required. Repertoire from the choral literature of the Renaissance through contemporary periods. Performances on and off campus as approved by the instructor and the director of the School of Music.

**246. University Chorale** (1 cr)

Soprano and alto choral literature. Open by tryout or permission. Off-campus performances as approved by the instructor and the director of the School of Music.

**247. Orchestra** (1 cr) Prereq: Open upon examination.

Playing and interpretation, including phrasing and the principles of orchestral technique. Performance of major orchestral works, and presentation of one of the grand operas, *Messiah*, spring oratorio, and other works with orchestral accompaniment in cooperation with choral groups. Off-campus performances as approved by the instructor and the director of the School of Music.

**250. Jazz Ensemble** (1 cr each, max 4) Prereq: 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
- B. Jazz Ensemble II
- D. Jazz Vocal Ensemble
- E. Jazz Small Group

**344A. Chamber Music I** (1 cr)

Quartets, trios, duos, and miscellaneous small vocal and instrumental ensembles organized for supervised and scheduled rehearsals of music appropriate for the ensemble. Off-campus performances as approved.

- B. Brass Choir
- D. Brass Ensemble
- G. Clarinet Choir
- J. Flute Ensemble
- K. Keyboard Ensemble
- N. Scarlet and Cream Singers
- P. Percussion Ensemble
- T. Saxophone Ensemble
- U. New Music Consort
- W. Chamber Wind Ensemble

**441. All-Collegiate Choir** (1 cr) *MUEN 041 is open to all students. No audition is required. Off-campus performance as approved by the instructor and the Director of the School of Music.* Standard choral works.

**442. Concert Choir** (1 cr) Prereq: Open to music majors, music minors, and non-music majors by audition to ascertain voice part or permission.

Concert choir seeks to encourage students to begin or continue their previous choral experience. Repertoire chosen from the standard literature and concerts are restricted to on-campus appearances. Emphasis on building good reading and singing habits.

**443. Varsity Chorus** (1 cr) Prereq: Tenor or bass voice. *MUEN 041 is open to all students. No audition is required. Off-campus performance as approved by the instructor and the Director of the School of Music.* Tenor and bass choral literature chosen from folksongs, spirituals, Broadway and Cornhusker favorites.

**445. The University Singers** (1 cr) Prereq: Audition required. Repertoire from the choral literature of the Renaissance through contemporary periods. Performances on and off campus as approved by the instructor and the director of the School of Music.

**446. University Chorale** (1 cr) Prereq: Open by tryout or permission.

Soprano and alto choral literature. Off-campus performances as approved by the instructor and the director of the School of Music.

**447. Orchestra** (1 cr) Prereq: Open upon examination. Playing and interpretation, including phrasing and the principles of orchestral technique. Performance of major orchestral works, and presentation of one of the grand operas, *Messiah*, spring oratorio, and other works with orchestral accompaniment in cooperation with choral groups. Off-campus performances as approved by the instructor and the director of the School of Music.

**450. Jazz Ensemble** (1 cr each, max 4) Prereq: 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
- B. Jazz Ensemble II
- D. Jazz Vocal Ensemble
- E. Jazz Small Group

**\*844. Music Ensemble** (1 cr per sem, max 4 applicable toward degree requirements)

- A. Large Instrumental
- B. Large Vocal
- D. Chamber
- E. Keyboard

## Recitals (MUSR)

A student who gives a full-length recital for credit and/or in fulfillment of degree requirements must be examined at least two weeks before the scheduled recital by a screening committee consisting of the applied teacher and two other faculty members, including one from the student's area. Student must be concurrently enrolled in major applied lessons during the semester the recital is given.

### 068. Recital Attendance (0 cr) P/N 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 Nonmajors (MUNM)

**NOTE:** With the exception of Jazz 168, 268, and 280, and MUSC 370H the following courses do not satisfy the requirements toward a major in music.

### Jazz/Jazz History (MUSC)

#### 168. Beginning Jazz Improvisation (MUNM 168) (2 cr)

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 168 or permission.

Jazz improvisation for instrumentalists that builds on the material covered in MUSC 168.

#### [ES] 387. History of American Jazz (3 cr) 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.

#### 463/863. Jazz Methods (2 cr) Prereq: MUSC 166 and 166A, or permission.

Jazz harmony, improvisation, and rhythm section techniques with emphasis upon execution and pedagogy.

## Music History/Music Appreciation (MUSC)

#### [ES][IS] 276G. The Music Experience (3 cr)

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.

#### [IS] 277. Art Music in the Western World (MUSC 277) (3 cr) For non-music majors.

Classical music in the Western European high art tradition from Gregorian chant to the present.

#### 279. Music on the Great Plains (MUSC 279) (3 cr)

Introduction to folk, popular, and cultivated music on the Great Plains during the nineteenth and early twentieth centuries. Using historical, literary, and musical perspectives, to examine the function and role of music in the life of the early settlers.

#### [ES][IS] 280. World Music (3 cr)

Introduction to basic ethnomusicological terms and techniques, including the distinction between folk, pop, and art music. First half of the class on traditional folk music of Europe, Africa, and America. Second portion on the art music of the Near East, India, Indonesia, and China-Japan.

#### 281. Music in Africa (3 cr)

Survey of various musical types in Africa.

#### [ES][IS] 287. The History of Rock Music (3 cr) Prereq: Sophomore standing.

Survey of the history of rock music including its antecedents in Rhythm & 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 20th Century life.

#### 350. The Great Composer (MUSC 350) (3 cr) Prereq: MUSC 276 or equivalent. For non-music majors. Student may take course twice for credit.

Life and representative major works of a great composer, to be announced in the schedule. Composers include Bach, Mozart, Beethoven, and Stravinsky.

#### 360. The Genres of Music (MUSC 360) (3 cr) Prereq: MUSC 276 or equivalent. For non-music majors. Students may take course twice for credit.

Introduction to the history and development of a major genre, to be announced in the schedule. Focuses on representative works by great composers. Genres include opera, the concerto, and the symphony.

#### [ES][IS] 370H. Honors: Women Making Music (3 cr)

Prereq: Good standing in the University Honors Program or by permission.

Popular and art music from the perspective of women.

## Music Education (MUED)

#### [ES][IS] 450. American Cultural Perspectives through Popular Music and Guitar (CURR, MUED 450/850) (3 cr)

For course description, see MUED 450/850.

## Interdisciplinary (MUSC)

#### [ES] 388. Arts of the 20th Century: 1900-1945 (AHIS, THEA 388) (3 cr) AHIS 388 will not count towards the major 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) AHIS 389 will not count towards the major in studio art and/or art history.

For course description, see AHIS 389.

## Applied Music

A \$20 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 not music majors or minors may obtain permission to take applied music lessons for credit on a space-available basis by auditioning successfully (only beginners need not audition) and paying for the credit plus an additional \$75 fee.

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 preregistration, since majors and minors must be assigned first to the available instructors. Applied music instruction fee of \$75 will be charged in addition to tuition for credit hour. Grade only.* Applied music lesson in voice or instrument for beginners; private or group, at instructor's discretion.

- |             |               |
|-------------|---------------|
| A. Voice    | E. Brass      |
| B. Keyboard | G. Woodwind   |
| D. Strings  | J. Percussion |

#### 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 \$75 will be charged in addition to tuition for credit hour. Applied music lesson in voice or instrument for beginners; private or group, at instructor's discretion.*

- |             |               |
|-------------|---------------|
| A. Voice    | E. Brass      |
| B. Keyboard | G. Woodwind   |
| D. Strings  | J. Percussion |

#### 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 \$75 will be charged in addition to tuition for credit hour. Applied music lesson in voice or instrument for beginners; private or group, at instructor's discretion.*

- |             |               |
|-------------|---------------|
| A. Voice    | E. Brass      |
| B. Keyboard | G. Woodwind   |
| D. Strings  | J. Percussion |

#### 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 \$75 will be charged in addition to tuition for credit hour. Applied music lesson in voice or instrument for beginners; private or group, at instructor's discretion.*

- |             |               |
|-------------|---------------|
| A. Voice    | E. Brass      |
| B. Keyboard | G. Woodwind   |
| D. Strings  | J. Percussion |

## Ensembles

School of Music ensembles are open to any full-time UNL student. An audition is required for each ensemble. See listing and descriptions of ensembles under "Ensemble (MUEN)" on page 275.

## Theatre Arts

**Professors:** Durst, Elwell, Miller, O'Connor

**Associate Professors:** Behrendt, Brown, Grange, Mason, E. Stauffer, J. Stauffer

**Assistant Professor:** Kenyon, Smith

The Department of Theatre Arts offers programs leading to majors in both the Hixson-Lied College of Fine and Performing Arts and Teachers College. The bachelor of arts and bachelor of fine arts degrees in theatre arts are offered in the Hixson-Lied College of Fine and Performing Arts. Dual registration in the Hixson-Lied College of Fine and Performing Arts and in Teachers College 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 Teachers College section of this bulletin.

## Pass/No Pass

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.

## Requirements for the Major in Theatre Arts

### Bachelor of Arts

The requirements for the major in theatre arts bachelor of arts degree consist of 33 credit hours of core requirements which are supplemented by 24 additional credit hours of theatre arts courses in one of three designated emphases for a total of 57 credit hours in the major. No minor is required.

Upon admission to the degree program, students may begin to pursue any one of the three emphases. To maintain a high level of student achievement and to help ensure successful completion of the degree program, screening takes place within the students' first three semesters as theatre majors to determine appropriate continued placement in a specific emphasis. Students wishing to complete the **Performance Emphasis** are reviewed and screened for continuation in that emphasis midway through the semester during which they are enrolled in THEA 223 Intermediate Acting I (typically their third semester as theatre majors). The review for each student includes an interview, an audition, and an analysis of the student's overall academic and artistic record all of which are used to determine the student's potential for success throughout the course of study. Those students who are permitted to continue in the **Performance Emphasis** are permitted to enroll in THEA 224 Intermediate Acting II and in subsequent required Performance Emphasis courses. Students who are not pursuing or continuing in the Performance Emphasis will continue their program of study in either the Production Emphasis or the Theatre Studies Emphasis.

#### Core Requirements: 33 hours

- 112G. Intro to Theatre (3 cr)
- 114. Basic Acting I (3 cr)
- 115. Basic Acting II (3 cr)
- 201. Technical Theatre Practice (3 cr)
- 202. Play Direction I (3 cr)
- 223. Intermediate Acting I (3 cr)
- 234. Scripts in Performance (3 cr)
- 253. Voice Production for the Stage (3 cr)
- 255. Stage Movement I (3 cr)
- 335. History of Theatre I (3 cr)
- 336. History of Theatre II (3 cr)

In addition to the core courses, students will take courses in theatre arts as designated in one of the three emphases listed below.

#### Performance Emphasis Requirements: 24 hours

- 204. Stage Makeup (2 cr)
- 224. Intermediate Acting II (3 cr)
- 254. Stage Diction and Dialects (3 cr)
- 256. Stage Movement II (3 cr)
- 401. Advanced Acting (9 cr)
- 408. Advanced Projects in Acting and/or Directing (1 cr)

*One course from:*

- 410. Stage Lighting I (3 cr)
- 412. Scene Design I (3 cr)
- 418. Costume Design I (3 cr)

#### Production Emphasis Requirements: 24 hours

- 204. Stage Makeup (2 cr)
- 300. Stage Management (3 cr)
- 410. Stage Lighting I (3 cr)
- 412. Scene Design I (3 cr)

- 418. Costume Design I (3 cr)  
*A total of 4 credit hours from:*
  - 408. Advanced Projects in Acting and/or Directing **and/or**
  - 409. Advanced Projects in Technical Theatre
  - 6 hrs of Theatre Electives

#### Theatre Studies Emphasis Requirements: 24 hours

- 410. Stage Lighting I (3 cr)
- 412. Scene Design I (3 cr)
- 418. Costume Design I (3 cr)  
*At least 3 credit hours from:*
  - 404. Evolution of Dramatic Theory I (3 cr)
  - 405. Evolution of Dramatic Theory II (3 cr)
  - and 12 credit hours from the following:*
    - 131. Intro to Playwriting (3 cr)
    - 404. Evolution of Dramatic Theory I (3 cr)
    - 405. Evolution of Dramatic Theory II (3 cr)
    - 427. The American Theatre I (3 cr)
    - 428. The American Theatre II (3 cr)
    - 431. Advanced Playwriting (3 cr)
    - 440. Continental Drama (3 cr)

Students interested in a design/technical production emphasis should pursue the bachelor of fine arts degree in design/technical production.

### Bachelor of Fine Arts

This degree program in design/technical production is for those wishing concentrated training/education in scenic, lighting, and costume design, and technical production; the student does not take a minor. Other theatre arts courses may be taken as electives in the major, but no more than 70 hours of credit in theatre arts courses may be applied toward the degree.

#### Core Requirements

- 112G. Intro to Theatre (3 cr)
- 114. Basic Acting I (3 cr)
- 201. Technical Theatre Practice (3 cr)
- 202. Play Direction (3 cr)
- 204. Stage Makeup (2 cr)
- 335. History of Theatre I (3 cr)
- 336. History of Theatre II (3 cr)
- 404. Evolution of Dramatic Theory I (3 cr)

#### Design/Technical Production Emphasis Requirements

In addition to the BFA core courses, design/technical production students will take the courses designated in the emphasis listed below.

##### 285-286. University Theatre (4 cr)

*A total of 4 cr from:*

- 408. Advanced Projects in Acting or Directing **and/or**
- 409. Advanced Projects in Technical Theatre
- 410. Stage Lighting I (3 cr)
- 411. Stage Lighting II (3 cr)
- 412. Scene Design I (3 cr)
- 413. Scene Design II (3 cr)
- 418. Costume Design I (3 cr)
- 419. Costume Design II (3 cr)
- 420. Problems in Technical Production (3 cr)

#### Plus either

#### THEA 421. Drafting for the Theatre (3 cr) or TXCD 103. Apparel Design & Construction (3 cr)

#### TXCD 121. Design Essentials (3 cr)

Depending upon each student's interest and needs, the number of emphasis hours will range from 27 to 32 credits, plus 36 credits in the core area.

## Requirements for the Minor in Theatre Arts

- 18 hours, including THEA 112G, 114, 201, 202, 335 or 336; and 3 hrs from among the following: THEA 115, 234, 300, 410, 412, 418, 427, 428, 431, 440.

## Courses of Instruction

### Theatre (THEA)

#### [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).

#### [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 I (3 cr)

Introduction to the essentials of the actor's craft: concentration, relaxation, sensory awareness, improvisation, and basic script analysis.

#### 115. Basic Acting 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.

#### [ES] 131. Introduction to Playwriting (3 cr)

Beginning writing for the theatre; starting with the composition of short dramatic scenes and working toward the completion of a one act play.

#### 189H. University Honors Seminar (2-3 cr) Prereq: Good standing in the University Honors Program or by invitation.

*Required for all students in the University Honors Program.*

Interdisciplinary seminar designed to accompany the University Honors Lecture; topics vary.

#### 199. Independent Study (1-3 cr) 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 and properties and safety.

#### 202. Play Direction I (3 cr) Lect 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 (2 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** (1-2 cr) Prereq: Permission only.

Intensive application of principles of interpretative and technical theatre practice. Use of the University Theatre Laboratory.

**286. University Theatre** (1-2 cr) Prereq: Permission only.

Intensive application of principles of interpretative and technical theatre practice. Use of the University Theatre Laboratory.

**300. Stage Management** (3 cr) Prereq: 12 hrs THEA or permission.

Survey of management techniques for the theatre including theoretical and practical application.

**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][IS] 335. History of Theatre I** (3 cr) Prereq: Junior standing.

Survey of the history of the theatre from its aboriginal origins to 1700.

**[ES][IS] 336. History of Theatre II** (3 cr) Prereq: Junior standing.

Survey of the history of the theatre from 1700 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.

**[ES] 388. Arts of the 20th Century: 1900-1945** (AHIS, MUSC 388) (3 cr) *AHIS 388 will not count towards the major in studio art and/or art history.*

For course description, see AHIS 388.

**[ES] 389. Arts of the 20th Century: 1945-Present** (AHIS, MUSC 389) (3 cr) *AHIS 389 will not count towards the major in studio art and/or art history.*

For course description, see AHIS 389.

**398. Special Topics in Theatre** (1-24 cr) Prereq: Permission.**398H. Honors Course** (1 cr per sem) 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) 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.

**[IS] 404/804. Evolution of Dramatic Theory I** (3 cr)

Prereq: 12 hrs theatre arts and dramatic literature. Dramatic theory from Aristotle to Lessing. Relationship of theory and practice on the stage.

**[IS] 405/805. Evolution of Dramatic Theory II** (3 cr)

Prereq: 12 hrs theatre arts and dramatic literature. Dramatic theory continued from Lessing to the present.

**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.

**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. 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.

**[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 6)

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.

**[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.

**455/855. Music Theatre Techniques** (3 cr) Prereq: Audition and permission.

Preparation, performance, and critique of scenes from the repertoire of American musical theatre, especially musical comedy, including solos, duets, and ensembles.

**480. Technological Innovations in Film Production**

(3 cr) Prereq: Junior standing or permission. Introduction to 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: One of the following: BRDC 370, or ENGL 252 or 254 or 259, or THEA 131; 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; one of the following: BRDC 474 or ENGL 252 or 254 or 259, or THEA 131; or permission. Introduction to "film grammar" and non-sync film production.**487/887. Digital Design and Animation** (3 cr) Prereq:

THEA 410/810 and 412/812; one of the following: 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.

**489/889. Film Production II** (3 cr) Prereq: THEA 481/881, 482/882, and permission.

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.

**499H. Honors Course** (2 cr per sem) 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.**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

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**Director:** Robert S. Haller, 221 Andrews Hall

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 Haller, 221 Andrews Hall.

### Courses of Instruction (USTD)

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**295. University Studies** (1-24 cr) Prereq: Permission.

**395. University Studies** (1-24 cr) Prereq: Permission.

**495. University Studies** (1-24 cr) Prereq: Permission.



## Gloria Gonzalez-Kruger

"My goal in teaching is to open up different worlds to students and help them develop their own world view. Students need to have a wide variety of theoretical perspectives, and my responsibility is to present that diversity of views. I strongly believe that teaching is enhanced by combining book knowledge and theory with actual life experience. Learning must be integrated across not only the intellectual and cognitive aspects of life but also through the emotional and relational aspects.

"I teach my students to think about individuals, couples, and families across the life cycle within their community, society, and the world. As I continue to engage students in more global thinking, I am helping them understand not only the American family that has been acculturated to our society, but also a diversity of families coming in and going out of our country. I want to enable students to see themselves as potentially active agents — positive interventionists — in the lives of other people and groups."

*Gloria Gonzalez-Kruger is an assistant professor of family and consumer sciences in the College of Human Resources and Family Sciences.*



# College of Human Resources and Family Sciences

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**Rita C. Kean**, Ph.D., Interim Dean and Professor of Textiles, Clothing and Design

**Joan Laughlin**, Ph.D., Associate Dean and Professor of Textiles, Clothing and Design

**Fayrene L. Hamouz**, Ph.D., Interim Assistant Dean and Associate Professor of Nutritional Science and Dietetics

For additional information or questions contact the Dean's Office, 105 Home Economics Building, 402/472-2916.

**Advising.** All students are advised by faculty in the College. Contact departmental offices if there are questions about the name of your adviser.

Family and Consumer Sciences  
123 Home Economics  
402/472-2957

Nutritional Science and Dietetics  
202 Ruth Leverton Hall  
402/472-3724

Textiles, Clothing and Design  
234 Home Economics  
402/472-2911

## About the College

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### Tradition

The College of Human Resources and Family Sciences had its origins prior to the turn of the 20th 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 and Goals

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The College of Human Resources and Family Sciences is committed to individuals, families and communities of Nebraska in the context of the larger society. The College's educational, research and outreach programs are focused on development of critical-thinking skills which reflect a concern for social responsibility.

The mission of the College is to develop the critical thinking skills of professionals whose work will be to help individuals, consumers, and families provide for and maintain the three basic functions necessary for a satisfactory quality of life: economic, physical, and psychosocial well-being. Departments accomplish the mission by empowering individuals, families and communities through teaching, research and outreach. Specific areas of research and education include:

#### Economic Well-Being

- Selection, use, and care of goods, including services.
- Acquisition and allocation of resources, including money, time, and energy.
- Interaction of individuals and families with the legal and market systems with growing emphasis on international trade and relations.

#### Physical Well-Being

- Nutrition through the life cycle for optimal health.
- Nutrition in health maintenance.
- Prevention of disease.

#### Psychosocial Well-Being

- Human development throughout the life span.
- Interactions within the family and between families and other groups in society.
- Coping with change, conflict, and stress.

Students learn about the interaction of individuals and families within the larger society and the significance of economic, cultural, and societal shifts in the economic, physical, and psychosocial well-being of individuals and families. Students also develop an appreciation of public policy and international affairs as factors in the day-to-day lives of each person. The College of Human Resources and Family Sciences develops the ability of professionals to improve the interface between the household and the greater society.

All courses in the College are designed to:

1. Develop competencies for professional growth;
2. Contribute to the broad educational base of students in the College;
3. Develop creative problem-solving skills of students; and,
4. Strengthen analytical and communication skills of students.

The College offers programs leading to a bachelor of science in human resources and family sciences in the following areas.

### Family and Consumer Sciences

Career Paths

Child Development/Early Childhood Education

Family and Consumer Sciences/Journalism and Mass Media (Omaha)

Family and Consumer Sciences Education

Family and Consumer Sciences/Journalism

and Mass Media

Family Financial Management

Family Science

### Nutritional Science and Dietetics

Dietetics

Dietetics/Journalism and Mass Media Foods

Nutrition Science

Restaurant and Foodservice Administration

### Textiles, Clothing and Design

Merchandising

Textile and Apparel Design

Textile Science

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.

### Administrative Structure

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The College includes three departments responsible for instruction, development, and coordination of extension activities for the State of Nebraska, and research in the areas of economic, physical, and psychosocial well-being of individuals and families. These academic departments are family and consumer sciences, nutritional science and dietetics, and textiles, clothing and design. Located on east campus the College occupies five buildings including the Ruth Staples Child Development Laboratory.

### Full Accreditation

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All baccalaureate degree programs in the College of Human Resources and Family Sciences are accredited by the American Association of Family and Consumer Sciences (AAFCS). Nationally only a small number of schools offering undergraduate programs in family and consumer sciences meet the high standards set by AAFCS for program accreditation. This accreditation requires a commitment to self-regulation and peer evaluation. Accreditation helps to ensure that graduates of these programs have had formal preparation that meets nationally accepted standards of quality and relevance. Because accreditation requires ongoing self-study, external evaluation, and regular review by the Council for Accreditation

for the American Association of Family and Consumer Sciences, the public is assured that programs reflect the development of knowledge and changes in professional practice which relate to issues in contemporary society. Accreditation is important to consumers of family and consumer sciences information and services, employers of graduates, and licensure and certification boards. The College of Human Resources and Family Sciences is the only unit in the State of Nebraska accredited by AACFS.

**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.

**Teacher Education.** Both the family and consumer sciences teacher education program and the early childhood/elementary education dual major are accredited through Teachers College by the National Council for the Accreditation of Teacher Education, and by the Nebraska State Department of Education. These accrediting agencies insure that standards for the preparation of educators are in keeping with established guidelines leading to quality instruction in the educational setting.

**Individual Certification.** The College offers course work leading to a certification in family and consumer sciences education, gerontology, and family life education. Graduates will need to apply for certification and take the appropriate examination. Family financial management majors are prepared for examinations to become accredited financial counselors.

## Faculty

The College has 50 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. They report their research at these meetings and provide leadership in those organizations.

## Student Body

The College has 900 undergraduate students and an additional 100 graduate students. Students are actively participating in and providing leadership in community, college and university organizations. Many students also earn state, regional and national recognition within their disciplines. Students in the College

gain valuable practical experiences through internships and practica in state, community and national organizations.

## 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:

- Cooperative Extension Service
- Family Resource Center
- Robert Hillestad Gallery
- Ruth Staples Child Development Laboratory
- Infant Research Laboratory

In addition, the College collaborates with the University of Nebraska Medical Center; the Center for Children, Family and the Law; the Center for Rural Revitalization; and the Food Processing Center in conducting research and providing services to the State of Nebraska. These program centers provide unique opportunities for students to apply knowledge in service and/or work environments.

## Scholarships and Fellowships

In addition to the scholarships awarded by the University, the College of Human Resources and Family Sciences awards a number of scholarships funded by 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. Sixty to seventy scholarships ranging from \$250 to \$3,000 per person are awarded each year. To be eligible for consideration for any of the scholarships listed below, both new and continuing students must **annually** complete a scholarship application through the Office of Scholarships and Financial Aid, 16 Canfield Administration Building, on city campus.

## Scholarships for Study in Specialized Areas of Study

**Phyllis Joan Chamberlain Boozer Scholarship.** Available to full-time junior/senior dietetics majors with financial need. Must be a graduate of a Nebraska High School.

**Mary-Ellen Brown Scholarship.** Preference to students of sophomore standing or above interested in extension.

**Professor Mary E. Guthrie Memorial Scholarship.** Preference to undergraduate or graduate students with academic excellence in textiles, clothing and design.

**Leoba E. Ickman Scholarship.** Graduate of a Nebraska high school, sophomore standing or above with plans to seek employment in the teaching profession after graduation.

**Colonel Lavon and Ruby Linn Fellowship.** Awarded through the Department of Nutritional Science and Dietetics.

**Grace Margaret Morton Scholarship.** Preference to undergraduate or graduate students with financial need and majoring in textiles, clothing and design.

**Zola Worth Scholarship.** Available to undergraduate or graduate students in nutritional science and dietetics.

**Lucile E. Wright Scholarship.** Undergraduate students in dietetics, foods, nutrition science, or restaurant and foodservice administration.

## County-Specific Scholarships for Study in Human Resources and Family Sciences

**Marie M. Cunningham Memorial Scholarship.** Must be a graduate of a Lincoln County high school. Preference to entering freshman.

**Phyllis Jane Fauquet Memorial Scholarship.** Preference to Plattsburgh-Cass County junior or senior with financial need.

**Kathy Klahn Memorial Scholarship.** Preference to a female student who is a graduate from a high school in Dakota, Dixon, Thurston, or Wayne counties.

**Knoland and Carolyn Plucknett Scholarship.** First preference is to Tri-County High School graduates, then any rural high school in Gage, Saline, or Jefferson counties.

## General Scholarship Assistance

**Mrs. Ida Wilkens Berger Scholarship.** Preference to 4-H members with financial need.

**Aural Scott Burr Scholarship.** Sophomore standing or above with financial need.

**Luther Drake Scholarship.**

**Dorotha Pond Dunham Scholarship.**

**Margaret S. Fedde Scholarship in Human Resources and Family Sciences.** Available to undergraduate or graduate students.

**Dale and Henrietta Fleck Houghton Scholarship.** Available to undergraduate or graduate students with financial need.

**Human Resources and Family Sciences Scholarship.**

**Frances Runty Hutchinson Fellowship.** Available for graduate assistantships for students with financial need.

**Nellie A. Hyde Memorial Fund.** Female sophomore student.

**Student Chapter of Kappa Omicron Nu.** Must be a member of Kappa Omicron Nu (KON). Awarded by the KON chapter.

**Lincoln Home Economists in Home and Community Scholarship.** Sophomore standing or above.

**Virginia Phillips Lippincott Scholarship.** Preference is to non-traditional female undergraduate student.

**Dorothea E. Lutjeharms Scholarship.** Available to undergraduate or graduate students.

**Edward and Catherine Martin Scholarship.** Available to undergraduate or graduate students.

**Vida N. Metzger Memorial Student Fund.** Preference to female student who has junior standing or above with financial need.

**Minority Scholarship in Human Resources and Family Sciences Fund.** Minority freshman, transfer, or continuing students with financial need.

**Donna Hiatt Rippetteau Memorial Scholarship.** Undergraduate or graduate student demonstrating leadership ability.

**Florence Schoenleber Scholarship.** Available to entering freshmen who are graduates from a Nebraska high school.

**Luella Selover Memorial Scholarship.**

**Celine Simon Memorial Scholarship.**

**Allegra E. Wilkens Scholarship.** Preference is to 4-H members and students with financial need.

**Jeanne Vierk Yeutter Fellowship.** Sophomore standing or above.

**Zeta Alumni Chapter of Kappa Omicron Nu Scholarship.** Sophomore or above, undergraduate or graduate, with high scholastic achievement and financial need.

### Scholarships Awarded to Human Resources and Family Sciences Students by the University Scholarship Committee

**Louis L. and Louise G. Hall Memorial Scholarship.**

**Henry K. Klosterman Memorial Fund.**

**Donald Walters Miller Scholarship.**

**Dr. Maurice L. and Katherine A. Peterson Scholarship.**

**Family and Community Education Scholarship(s).**

**Peoples Natural Gas Honor Scholarship.**

### Academic Advising

Students who do not know the name of their adviser, should contact the academic department.

Academic advising is important to a successful college experience. All students in the College of Human Resources and Family Sciences are advised by faculty in the department of their major. A student remains with an adviser for the duration of the educational program unless the student changes his/her major. As academic advisers, faculty assist students in assessing educational goals, planning programs of study, understanding program requirements, and knowing policies and procedures.

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. 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 early enrollment 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.

### Honors and Awards

#### Week of Excellence

The College of Human Resources and Family Sciences celebrates a *Week of Excellence* each March to celebrate and honor students and faculty for their contributions during the year to excellence in academics, research and service. The week features outstanding speakers, career development activities, interaction with notable alumni, and a recognition/awards banquet for students, parents, and faculty. The following awards are presented annually:

### Top Ten Students in the Respective Classes

This award is based on academic performance.

### Outstanding Senior Awards

- Margaret Liston Outstanding Student in Family Financial Management
- Henrietta Fleck Houghton Outstanding Senior in Family and Consumer Sciences Education
- Outstanding Senior in Family Science
- Hazel Fox Outstanding Senior in Nutritional Sciences and Dietetics
- Outstanding Senior in Restaurant and Food-service Administration
- Outstanding Senior in Textiles, Clothing and Design
- Outstanding Senior in Child Development/ Early Childhood Education

### Top Senior Award

This award is presented to a senior student who has achieved the highest level of scholastic performance while in the College of Human Resources and Family Sciences. The award is sponsored by the College of Human Resources and Family Sciences Alumni Association.

### Dean's List

The Dean's List, issued twice during the academic year, includes students enrolled in the College of Human Resources and Family Sciences who have achieved a minimum 3.75 semester GPA. Students who are on academic probation and/or who are taking fewer than 9 graded credit hours are ineligible for the Dean's List. The list is issued at the end of fall and spring semesters.

### Degrees with Distinction

Any student with a cumulative grade point average of 3.75 to 3.899 who has at least 60 hours of credit in residence prior to the semester of graduation, and is recommended by the College faculty may graduate *With Distinction*.

A student with a cumulative grade point average of 3.90 to 4.00 who has at least 60 hours of credit in residence prior to the semester of graduation and is recommended by the College faculty may graduate *With High Distinction*.

Any student who has successfully completed the University Honors Program, has 60 hours in residence prior to the semester of graduation, a cumulative GPA of 3.90, and is recommended by the College faculty may graduate *With Highest Distinction*.

### Student Organizations

There are two national honoraries for students in the College of Human Resources and Family 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.

#### AAFCS

The student chapter of the American Association of Family and Consumer Sciences is an organization open to all students in the College of Human Resources and Family Sciences. A member may belong to a local chapter as well as to state and national organizations.

#### FSCEA

The Family and Consumer Sciences Education Association serves as the "education" organization for those interested in family and consumer sciences education and extension. The purposes are to provide training in leadership and development for future professional roles and to provide service to the College and the Department of Family and Consumer Sciences.

#### SDRMA

The Student Dietetics and Restaurant Management Association welcomes all nutrition majors. The purpose is to foster the professional and educational goals and interests in the fields of dietetics and foodservice management.

#### Human Resources and Family Sciences Student Advisory Board

This board is composed of an elected panel of students representing each department in the College. The Student Advisory Board plans events for the entire college, such as the Week of Excellence, and communicates the needs and desires of students to faculty and administration.

## Career Opportunities

A degree in human resources and family sciences provides a broad educational background that includes a strong general 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.

**Health Care**—careers include dietetics, rehabilitation, and gerontology, among others.

**Journalism/Communication**—careers include broadcasting, news editorial, and advertising.

**Education**—careers include teaching in elementary, junior and senior high schools; extension education; government, business and industry.

**Human Services**—careers include social work, administration, law enforcement, program planning and management; gerontology; human services; job, family and personal counseling.

**Design-Oriented**—careers include textile design, apparel design, fashion illustration, visual merchandising, and product development.

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

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. This minor is described under degree programs and areas of study.

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 and Queen Margaret College, Edinburgh, Scotland.

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 Dean's Office.

## Admission to the College

### Entrance Requirements

Admission requirements for the College of Human Resources and Family Sciences are as follows.

#### High School

- English—4 units
- Mathematics—4 units including Algebra I, II, geometry, and one unit that builds on algebra or geometry
- Natural Sciences—3 units selected from biology, chemistry, biological sciences, physics, and earth sciences and including at least one unit of laboratory instruction
- Social Studies—3 units including at least one unit of American and/or world history and one additional unit of history, American government, and/or geography, and a third unit from any social science discipline
- Foreign Languages—2 units of the same language

### 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 5 of this bulletin.

Courses taken to remove deficiencies cannot be applied toward graduation requirements, not even as elective credit. The Dean of the College of Human Resources and Family Sciences will make the final decision concerning any problems or questions that may arise in satisfying requirements to remove deficiencies.

### Math Placement Exam (MPE)

Students admitted to the College of Human Resources and Family 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 Students to the College of Human Resources and Family Sciences

#### GPA Requirement

Students who transfer to the University of Nebraska-Lincoln College of Human Resources and Family Sciences from other colleges including UNL, technical schools, community colleges, or universities must meet the entrance requirements, fulfill degree requirements that exist at the time of their admission to the College, be in good academic standing and have a minimum cumulative GPA of 2.0 and a minimum 2.0 average in the last semester of attendance at another institution or at the University of Nebraska.

#### 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.

- 66 is the maximum number of hours that will be accepted on transfer from a two-year college.
- 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 family and consumer sciences courses will be reviewed in keeping with the guidelines specified by each department.

No more than 18 semester hours will be accepted in one department, and at least one-half of the professional-hour requirements must be taken in the College of Human Resources and Family Sciences.

## Acceptance of D Grades

Grades of D from UNO and UNK may transfer to fulfill requirements. Grades of D from other academic institutions will not be accepted.

## 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. Grades of D from UNO and UNK may transfer to fulfill requirements except in professional courses required by the major department. 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 Office of the Dean.

## 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 Human Resources and Family 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 Dean's Office to determine which courses will transfer to fulfill specific College of Human Resources and Family Studies requirements.

Courses from accredited two-year institutions which carry the 400-level designation will generally not be substituted for human resources and family sciences classes in the College. The 300-level courses will be considered on an individual basis by the respective departments in the College of Human Resources and Family Sciences.

- No more than 18 semester hours in one department will be accepted.
- At least one-half of the professional-hours requirements must be taken in the College of Human Resources and Family Sciences.
- Courses taken prior to course articulation agreements will be accepted contingent upon departmental validation of the credit.

## Transferring from Other Colleges at UNL

Students transferring to the College of Human Resources and Family 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 Human Resources and Family 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**.

## Readmitted Students

Students readmitted to the College of Human Resources and Family Sciences who previously left the College in good academic standing (minimum 2.0 cumulative GPA and not on probation) may return to the College. Students will, however, be required to follow current requirement guidelines in 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.

P/N. Students can earn no more than 12 hours of pass credit excluding courses offered only on P/N basis.

## Grade Appeals

Any student enrolled in a course in the College of Human Resources and Family Sciences who wishes to appeal alleged unfair and prejudicial treatment by a faculty member shall present his/her appeal in writing to the Dean of the College no later than 30 days after notice of the student's final course grade has been mailed from campus. 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.

## Graduation Requirements

In addition to the curriculum requirements presented under Programs and Departments, the following general graduation requirements exist for the College of Human Resources and Family Sciences.

1. **Credit Hours and Grade Point Average.** A minimum of 128 semester hours of applicable credit is required to earn the bachelor of science degree in human resources and family sciences. Some programs require more than 128 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 college, even one on the University of Nebraska campuses, can be applied toward a degree in human resources and family sciences.
2. **Grades.** Grades of D satisfy requirements of the College of Human Resources and Family Sciences unless specified otherwise under the Programs and Departments section of the bulletin. Students who receive a grade of D, however, are **encouraged** to retake the course, particularly if it is in the major area.
3. **Requirements. While faculty advisers assist students in planning their programs, and monitoring their progress toward the degree, it is the responsibility of the student to be informed about requirements for graduation and to see that these requirements are met.**
4. **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.
5. **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 the University of Nebraska. 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.
6. **Special Requests for Substitutions or Waivers.** For special exceptions there may be a need or desire for students to request a

## College Academic Policies

### Registration

#### Academic Load

A maximum of 18 credit hours may be taken each semester without special permission from the Dean's Office. A minimum of 12 credit hours must be taken each semester to be classified as a full time student.

To complete the requirements for a degree in eight semesters, a student must earn an average of 16 credit hours each semester. Most students are advised to take 12-15 credit hours their first semester. This allows new students to make an easier transition from high school to college where course requirements are more rigorous.

Most students need a minimum of two hours of preparation for every hour in class, so a schedule of 12 credit hours is actually equivalent to a 36 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.

#### Pass/No Pass

The pass/no pass (P/N) option is designed for students who want to study 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. Not all classes can be taken under the P/N option. **All courses in the major area, as well as professional supporting courses, must be taken for a grade.** Free electives may be taken

special substitution or waiver be made to curriculum requirements. This request can be made only in unusual circumstances and cannot serve as an excuse for not following curriculum requirements. Specific instructions and procedures for consideration of exceptions are available from the student's adviser or the Dean's Office.

7. **Senior Check.** After accumulating at least 75 hours, each student is expected to request an analysis of graduation requirements (senior check). This is done by filing a request form at the Credentials Office, 107 Canfield Administration Building, on city campus. Results of the analysis will be mailed to the student and academic adviser.
8. **Application of Degree.** Each student who expects to receive a diploma must file an application for candidacy for the diploma in the Office of Registration and Records, 107 Canfield Administration Building. Announcements regarding deadline dates are posted on campus bulletin boards and published in the *Daily Nebraskan*. **DEAD-LINES 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 correspondence, by clearance of incompletes, by enrollment at another institution, by special examinations, etc.); and of any revision of such plans. In addition, any change in address or phone number should be specifically directed to this office if concerns or problems arise to avoid a postponement of graduation until a later semester.

### Program Assessment

College 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.

## Degree Programs and Areas of Study

### Human Resources and Family Sciences Curriculum

#### Majors and Areas of Study

The College offers programs leading to a bachelor of science in human resources and family sciences in the following areas:

#### Family and Consumer Sciences

##### Career Paths

- Child Development/Early Childhood Education
- Family and Consumer Sciences Education
- Family and Consumer Sciences and Journalism and Mass Media
- Family Financial Management
- Family Science
- Family and Consumer Sciences/Journalism and Mass Media (Omaha)

#### Nutritional Science and Dietetics

- Dietetics
- Dietetics/Journalism and Mass Media
- Foods
- Nutrition Science
- Restaurant and Foodservice Administration

#### Textiles, Clothing and Design

- Merchandising\*
- Textile and Apparel Design
- Textile Science\*\*

\* 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 Human Resources and Family Sciences offers a minor in international studies. The requirements of the minor are:

Courses	Hours
ANTH 212 .....	3
Foreign Language of Region/Country of Focus .....	6
HRFS 465/865 International Perspectives of Human Resources & Family Sciences .....	3
Region/Country Specific Courses .....	6
Study Abroad Experience .....	3
<b>Total 21</b>	

For region specific courses and languages consult with your faculty adviser or obtain a copy of the international studies minor description from 105 Home Economics. Students may declare the minor by filing the minor declaration form available in the college office.

#### Minors in Other Colleges

An undergraduate student with a major in human resources and family sciences who wants a minor in another college should consult with their College of Human Resources and Family 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 proposal form, available in room 105 of the Home Economics Building, and submit the program for the minor(s) to the College of Human Resources and Family Sciences Dean's office. Upon approval, the program will be forwarded to the Director of Registration and Records with copies supplied to the College of Arts and Sciences, the student's adviser, the student, and the Dean's office.

**General Agriculture.** Students in human resources and family 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 Agriculture.

More specific details about general areas and courses are given in the College of Agriculture section of this bulletin. The specific minor program must be prepared in consultation with the College of Agriculture Dean's office, room 103 Agriculture Hall.

## University Comprehensive Education Requirements

The University comprehensive education programs consist of a minimum of 30 credit hours of courses that will help students develop a breadth of knowledge and critical intellectual abilities. The program is comprised of **Essential Studies** [ES] and **Integrative Studies** [IS] courses. Requirements are:

**Essential Studies**—one ES course in each of the following: communications, mathematics, science, the humanities, the arts, ethnicity and gender, historical studies, and human behavior and organization (two courses are required in this area).

**Integrative Studies**—students choose at least 10 IS courses during their studies at UNL that stress, in addition to course content, critical thinking and problem solving, writing and speaking, and considerations of human diversity.

Out of the ten IS courses, at least one must be a 200-level course, one a 300-level course, and one a 400-level course. Integrative Studies courses may be taken from any University department with a limit of three from one department. A well planned program of study will generally allow students to fulfill both IS and ES requirements with the same set of courses. The human resource and family sciences programs are constructed to help assure that these requirements are met. In addition, students take Introduction to Library Research (LIBR 110).

## College Core and Comprehensive Education Requirements

The following minimum requirements apply to all programs in the College. Students in General Studies should refer to individual majors under "Programs and Departments" on page 289 when selecting courses.

	Hours
I. Essential Studies .....	34
A. Communications .....	6 (one written and one oral)
B. Mathematics and Statistics .....	3
C. Human Behavior, Culture & Social Organization .....	9
D. Science and Technology .....	4 Biological or physical science with lab
E. Historical Studies .....	3
F. Humanities .....	3
G. Arts .....	3
H. Race, Ethnicity & Gender .....	3
II. Human Resources and Family Sciences Core .....	14
FACS 280 (3 cr)	
HRFS 183 (2 cr)	
TXCD 123 or NUTR 253 (3 cr)	
Two courses from the following:	
FACS 120 or 160	
NUTR 151 or TXCD 121	

## Graduate Study in Human Resources and Family 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 interdepartmental area of human resources and family sciences with special emphasis in the departments of family and consumer sciences, nutritional science and dietetics, and textiles, clothing and design. In addition, the individual departments offer graduate work leading to the master of science degree or master of arts degree.

For the doctor of philosophy degree, courses of study in human resources and family sciences leading to the doctoral degree are offered through a unified PhD program which is governed by the Interdepartmental Graduate Committee composed of faculty members elected from each participating department (family and consumer sciences; nutritional science and dietetics; and textiles, clothing and design). 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.

## Programs and Departments

### College of Human Resources and Family Sciences

All course and programs of study are offered through one of the three departments with a few exceptions. The international minor and the honors programs are 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 resources and family sciences.

## Courses of Instruction (HRFS)

### [IS] 183. Orientation to Human Resources and Family Sciences Professions (2 cr) (UNL, UNO)

Introduces student to contemporary problems in individual and family life with emphasis on roles that human resources and family sciences professionals can assume in providing economic, physical, and psychosocial well-being for people. Investigation of the past, present, and future issues in human resources and family sciences through lecture, discussion, individual research, and problem-solving activities.

### 290. International Study in Human Resources and Family Sciences (1-15 cr, max 15 hrs between HRFS 290 and 490) Prereq: Permission.

Individualized or group international study to broaden students' perspectives and increase knowledge about other cultures.

### [ES] 465/865. International Perspectives of Human Resources and Family Sciences (3 cr) (UNL) Lec 3. Prereq: HRFS 183 and three human resources and family sciences core courses or permission.

Cross-cultural interdisciplinary perspectives of human resources and family sciences.

### 490. International Study in Human Resources and Family Sciences (1-15 cr, max 15 hrs between HRFS 290 and 490) Prereq: Permission.

Individualized or group international study to broaden students' perspectives and increase knowledge about other cultures.

### 498H. Honors: Research Methodologies (3 cr) (UNL II)

Prereq: Admission to human resources and family sciences honors program, junior standing and 6 hrs from FACS 120H, FACS 160H, NUTR 151H, TXCD 123H.

Processes of creating new knowledge through the scientific method of conducting research. Includes analyzing, evaluating and interpreting professional research literature; identifying research problems; and writing a research proposal.

## Department of Family and Consumer Sciences

### Acting Chair: Professor Julie M. Johnson

**Professors:** Abbott, Combs, DeFrain, Draper, Edwards, Johnson, McBreen, Poley, Zeece

**Associate Professors:** Allen, Cantrell, Cramer, Davis, Eversoll, Prest, Prochaska-Cue, Smith, Stevens

**Assistant Professors:** Andersen, Bischoff, Churchill, Dalla, Gonzalez-Kruger, Montgomery, Rider, Torquati

**Lecturers:** Rupiper, Zhao

Family and Consumer Sciences offers an undergraduate option which prepares students to become family life educators. If students select this option, they may apply to become a Certified Family Life Educator through the National Council on Family Relations. Obtaining certification will: 1) recognize their expertise in family issues, 2) acknowledge the preventative focus of Family Life education, 3) increase their credibility by validating their expertise and education, 4) provide employers with assurance that one's knowledge and skills are current, 5) allow for networking with other Family Life Educators. When selecting this option, students select among several career paths: child development/early childhood education (working with young children), family financial management (working with individuals/families on management of finances), family science (working with children and families), and Family and Consumer Sciences Education (working with adolescents in formal educational settings).

home to three teaching/research laboratories: the Ruth Staples Child Development Laboratory, the Infant Research Laboratory, and the Family Resource Center.

**Graduate Study.** Advanced degrees of master of science in Family and Consumer Sciences and an interdepartmental master of science in Human Resources and Family Sciences with an emphasis in the area of Family and Consumer Sciences are available. In addition, a distance education master's degree in Family Financial Planning is available. 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

### Family Financial Management (18 hrs)

FACS 120 (3 cr), 222 (3 cr), 280 (3 cr), 322 (3 cr) and 438 (6 cr)

### Family and Consumer Sciences (18 hrs)

FACS 160, 280, and four courses in the Department, two of which must be at the 300 level or above.

## Procedures On Dropout 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 Family and Consumer Sciences 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.

**Option.** Students majoring in this option can apply for Family Life Educator Certification through the National Council on Family Relations (NCFR). If they select this option, they have several possible career paths: child development/early childhood education (working with young children), family financial management (working with individuals/families on management of finances), family science (working with children and families), and Family and Consumer Sciences Education (working with adolescents in formal educational settings).

## 1. Family and Consumer Sciences

Students should select an appropriate career path:

- Child Development or Early Childhood Education (working with young children)
- Family Financial Management (working with individuals/families on management of finances)

c. Family Science (working with children and families)	
d. Family and Consumer Sciences Education (working with adolescents in formal educational settings)	
	<b>Hours</b>
<b>Comprehensive Education.....</b>	<b>38-41</b>
A. Communication.....	9
3 cr-Speech-Select from COMM 109, 205, 209, 210, 311; ALEC 102, 202	
6 cr-Composition and Writing-Select from ENGL 150, 150H, 151, 101, 102, 254; JGEN 200; CURR 120	
B. Mathematics and Statistics.....	3
3 cr-Select from STAT 180, EDPS 459, ECON 215, BIOM 201, MATH 203	
C. Human Behavior, Culture, and Social Organization.....	9
9 cr-Select three courses from Area C, no more than two in any one department	
D. Science and Technology.....	4
4 cr-One course in biological and physical sciences with lab	
Technology Requirement (no credit)	
E. Historical Studies.....	3
3 cr-One course in Area E	
F. Humanities.....	3-6
3 cr-One course in Area F	
One course in literature and philosophy	
G. Arts.....	3-6
3 cr-One course in Area G	
TXCD 121	
H. Race, Ethnicity and Gender.....	3-6
3 cr-One course in Area H	
CURR 330	
I. Information Retrieval.....	1
1 cr-LIBR 110	
<b>II. Human Resources and Family Sciences Core .....</b>	<b>14</b>
FACS 120 (3 cr)	
FACS 280 (3 cr)	
HRFS 183 (2 cr)	
<sup>a</sup> NUTR 151 and <sup>b</sup> TXCD 123 (6 cr) <b>OR</b> NUTR 253 and TXCD 121 (6 cr)	
<b>NCFR Categories.....</b>	<b>36-46</b>
A. Families in Society	
FACS 280 Family Science (required in core)	
B. Parent Education and Guidance .....	3
FACS 382 Parenting	
C. Internal Dynamics of Families.....	3
FACS 381 Family Intervention & Field Work	
D. Family Law and Public Policy .....	3
FACS 488/888 Child & Family Policy	
E. Ethics .....	6-15
<i>In addition to a course primarily on ethics (FACS 480 or CURR 434) students will discuss ethics in relation to their practicum based on their career path.</i>	
<sup>ad</sup> CURR 434 Ethics in Education	
<sup>bc</sup> FACS 480 Professional Identity & Ethics	
<i>Select one of the following:</i>	
<sup>a</sup> FACS 497A Practicum in Early Childhood Education (9 cr)	
<sup>bc</sup> FACS 497D Practicum in Family & Consumer Sciences (3 cr)	
<sup>d</sup> FACS 413/813 Student Teaching (12 cr) <i>(See Admission to Student Teaching)</i>	
F. Interpersonal Relationships.....	3
<i>Select one of the following:</i>	
COMM 370 Family Communication	
COMM 371 Communication in Negotiation & Conflict Resolution	
COMM 375 (UNO)	
COMM 380 Gender & Communication	
<sup>d</sup> FACS 215 Critical Thinking Processes	
FACS 481 Family Violence	
PSYC 261 Conflict & Conflict Resolution	
G. Human Growth and Development .....	9-10
FACS 160 Human Development & the Family	
<i>Select two of the following:</i>	
FACS 171/171L Infancy and Lab	
FACS 270/270L Development of the Preschool Child	
<sup>d</sup> FACS 372 Middle Childhood & Adolescence	

FACS 462 Adulthood & Aging	
FACS 474 Assessment of the Young Child	
FACS 476 Cognitive Development of the Young Child	
GERO 446 Psychology of Adult Development & Aging	
<sup>d</sup> EDPS 362 Learning in the Classroom	
EDPS 451 Psychology of Adolescence	
H. Family Financial Management .....	3
FACS 222 Family Financial Management	
I. Family Life Methodology .....	3
<i>Select one of the following:</i>	
ALEC 433 Planning & Implementing of Cooperative Extension	
<sup>d</sup> FACS 402/802 Instructional Theory & Design (open only to adolescent career path)	
FACS 416 Educational Programming	
VAED 483 Foundations of Human Resource Development	
VAED 484 Concept & Design of Training	
J. Human Sexuality .....	3
FACS 471 Human Sexuality	
<b>Supporting Courses.....</b>	<b>12-13</b>
Family Diversity .....	3
<i>Select one of the following:</i>	
FACS 485 Contemporary Family Issues (Ethnic Families)	
HRFS 465 Int'l Perspective of Human Resources & Family Sciences	
<sup>d</sup> NUTR 253 Cultural Aspects of Food & Nutrition	
SOCI 448 Family Diversity	
SOCI 481 Minority Groups	
PSYC 425 Psychology of Racism	
Child & Family Issues and Problems.....	6
<i>Select two not already taken:</i>	
EDPS 462 Psychology of Disability	
FACS 438 Problems in Family Resources	
FACS 481 Family Violence	
FACS 485 Contemporary Family Issues (addictions)	
PSYC 380 Abnormal Psychology	
SOCI 425 Contemporary Family Issues	
SPED 400 Characteristics of Exceptional Persons	
<sup>d</sup> SPED 401B Accommodating Exceptional Learners in the Secondary School Classroom	
Research/Modes of Inquiry .....	3
<i>Select one of the following:</i>	
CRIM 251 Research Methods	
CURR 430 Intro to Philosophy of Education	
PSYC 350 Research Methods & Data Analysis	
SOCI 205 Intro to Social Research	
SOCI 407/807 Strategies of Social Research: Qualitative Methods	
<b>Electives .....</b>	<b>0-10</b>
All students must have a minimum of 42 FACS credits-Independent study (296, 396, 496) and Research (498) courses can be included as electives as well as those FACS courses mentioned above.	
<i>Select one of the following career paths:</i>	
<b>Additional Courses for Each Career Path</b>	
<b><sup>a</sup>Child Development/Early Childhood Career Path-Classes may also be taken to fulfill the Family Life Educational Core, so credit hours may vary.</b>	
The child development/early childhood career path 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, and other child service professions. These programs offer a strong foundation for varied graduate studies.	
FACS 171/171L Infancy/Lab	
FACS 270/270L Development of the Preschool Child	
FACS 474 Assessment of the Young Child	
FACS 476 Cognitive Development of the Young Child	
<i>New class on Play-to be developed</i>	
Recommended/Optional: FACS 372, 477	

**<sup>b</sup>Family Financial Management Career Path-Classes may also be taken to fulfill the Family Life Education Core, so credit hours may vary.** The career path for family financial management prepares students for interactive roles in promoting the economic well-being of individuals and families in relation to their values, goals, needs, and demands. Students are educated to advise in the areas of consumer credit, employee benefits, medical care claims, retirement planning, and government programs. Upon completion of the program, students are eligible to take the Accredited Financial Counselor examinations. Recent graduates have been employed by banks, credit unions, and government agencies.

Economics (3 cr)  
FACS 322 Advanced Family Finance (3 cr)  
FACS 438 Problems in Family Resources (6 cr)

#### **Family Science Career Path-18-24 credits.**

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. 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.

Do any approved minor-See College of Arts and Sciences in Bulletin.

#### **Family and Consumer Sciences Education (working with adolescents)**

**Career Path-17 credits.** The students enrolled in this career path will meet the requirements for the Nebraska Secondary Teaching Certificate and endorsement in Family and Consumer Sciences. Students may also combine the area with other subject matter areas that will lead to teaching endorsements in other fields. One example is a combination of Family and Consumer Sciences Education and Health Education (see Option 2).

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.

FACS 210/810 Teaching and Learning in Family and Consumer Sciences Classrooms (2 cr)  
FACS 401/801 Curriculum Theories & Concepts  
FACS 412/812 Developing Instruction in Family and Consumer Sciences (2 cr)  
HLTH 100 Healthy Lifestyles (3 cr)  
NUTR 244 & 245 Scientific Principles of Food Preparation and Lab (4 cr)  
CURR 424 Foundations of Career and Technical Education (3 cr)

## Admission to Student Teaching in Family and Consumer Sciences for Students Selecting the Family and Consumer Sciences Education Career Path

### Minimum Grade Point Averages

Cumulative: 2.5 GPA

Human Resources and Family Sciences Subject Matter: 2.7 GPA

Professional Education courses: 2.8 GPA with no grade lower than a C+ in any course (CURR 330; EDPS 251, 297, 362; FACS 210, 401, 402, 412; SPED 401; CURR 424).

### Pre-Professional Skills Test

Students are required to receive a passing score on all parts of the basic skills test. They may take the Pre-Professional Skills Test (PPST), Computer Based Academic Skills Assessment (CBT), or Content Mastery Examination for Educators (CMEE).

### 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 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. See Teachers College requirement on page 316 for further information.

### Computer Technology Requirement

Students are required to complete the Teachers College Technology requirement. Obtain the details from a faculty adviser.

### 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.

### Course Requirements

Courses identified by number cannot be taken pass/no pass (P/N) with the exception of HRFS 183 and FACS 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.

## 2. Family and Consumer Sciences Education with Endorsement in Health Education

	Track A—Teacher Certification	Track B—Non-Certification	Hours
<b>Comprehensive Education</b>			<b>41-46</b>
Communications	.....9		
One course in speech (3 cr)			
One course in English Composition: ENGL 150 or 151 (3 cr)			
One course in intensive writing (3 cr)			
B. Mathematics and Statistics	.....3		
One course in math or statistics (3 cr)			
C. Human Behavior, Culture and Social Organization	.....9-11		
ECON 210 (5 cr) or 211 (3 cr)			
POLS 100 or 232 (3 cr)			
PSYC 111 or 181 (3 cr)			
D. Science and Technology	.....8		
BIOS 101/101L (4 cr)			
BIOS 213/213L (4 cr)			
E. Historical Studies	.....3		
One course in history (3 cr)			
F. Humanities	.....3-6		
<b>Track A</b> —must include one course in literature ( <i>select from ENGL 180, 205, 211A, 230, 231, 233B, 234A, 234B, 261E, 361A, 361B</i> ), and one course in philosophy ( <i>suggested courses: PHIL 101, 106</i> ) (6 cr)			
<b>Track B</b> —must take one course in literature, philosophy, classics, or religion (3 cr)			
G. Arts	.....3		
TXCD 121 (3 cr)			
H. Race, Ethnicity and Gender	.....3		
CURR 330 (3 cr)			
Information, Discovery and Retrieval	.....1		
LIBR 110 Intro to Library Research (1 cr)			
Technology requirement (Track A only) (Teachers College—see bulletin)			
<b>Human Resources and Family Sciences Core</b>	.....14		
FACS 120 Individuals & Families as Consumers (3 cr)			
FACS 280 Family Science (3 cr)			
HRFS 183 Orientation to Human Resources & Family Sciences (2 cr)			
NUTR 151 Intro to Nutrition (3 cr)			
TXCD 123 Clothing & Human Behavior (3 cr)			
<b>Family and Consumer Sciences Core</b>	.....15-18		
FACS 215 Critical Thinking Processes (3 cr)			
FACS 222 Intro to Family Finance (3 cr)			
FACS 381 Family Consultation in Human Services Professions (3 cr)			
FACS 480 Prof Issues in Family & Consumer Science (3 cr)			
FACS 488 Child & Family Policy (3 cr)			
<b>Track B</b> —must include FACS 160 Human Development & the Family (3 cr)			
<b>Professional Requirements</b>	.....25-50		
FACS 210 (2 cr)			
<b>Track A</b> —must include FACS 382, 401, 402 (9 cr), 412 (2 cr), 413 (12 cr); NUTR 241, 253; EDPS 251, 362 (3 cr); EDPS 297 (2 cr); SPED 401B; CURR 424 (3 cr)			
<b>Track B</b> —must include FACS 416/816; one course in educational psychology (3 cr); two courses from TXCD 103, 222 or 206; two courses from NUTR 244, 253, or 355.			
<b>Professional and Community Applications</b>	.....1-12		
<b>Track A</b> —must include FACS 413 (12 cr)			
<b>Track B</b> —must include FACS 497D (3 cr) or HLTH 427 (1-6 cr)			
Other Health Requirements	.....22		
FACS 471			
HLTH 100 and 212			
HLTH 351, 326, 401, 255E, 403, 409			
<b>Electives</b>	.....0-8		
		<b>Total 128-142</b>	

## 3. Family and Consumer Sciences Journalism and Mass Media

This option is a joint program between the department of Family and Consumer Sciences and the UNL College of Journalism and Mass Communications. The student combines a broad background in family and consumer sciences with one area of journalism of the student's choice. Career opportunities may include production, editing, reporting, photography, advertising, and sales.

### Procedures for Determining Admission to the Family and Consumer Sciences Journalism and Mass Media Option

#### GPA

Cumulative GPA of 2.50 to enroll in the family and consumer sciences and journalism and mass media option.

#### Grades Earned

Grades of D+ or less in journalism courses and in 300/400-level professional requirement courses in family and consumer sciences 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>Comprehensive Education</b>	.....41
A. Communications	.....9
One course in English Composition: ENGL 150 or 151 (3 cr)	
One course in intensive writing: ENGL 150, 151, 254, 255; JGEN 200 (3 cr)	
One course in speech: COMM 109, 205, 209; ALEC 102, 202 (3 cr)	
B. Mathematics and Statistics	.....3
One course in mathematics: MATH 101 or higher except 200, STAT 180, ECON 215 or BIOM 201 (3 cr)	
C. Human Behavior, Culture and Social Organization	.....9
Social Sciences (6 cr)	
Two courses in: psychology, sociology, anthropology, or political science	
One course in research methods (3 cr): SOCI 205, CRIM 251, PSYC 370, HRFS 498H	
D. Science and Technology	.....4
Biological or physical sciences (with lab) (4 cr)	
E. Historical Studies	.....3
One course in history (3 cr)	
F. Humanities	.....6
Two courses in: literature, philosophy, classics, or religion (6 cr)	
G. Arts	.....3
One course in: art, music, dance, photography, or theatre (3 cr)	
H. Race, Ethnicity and Gender	.....3
One course in cultural diversity: CURR 330; SOCI 217, 218; HRFS 486; or another course that deals with a culture different from one's own culture (3 cr)	
Information, Discovery and Retrieval	.....1
LIBR 110 Intro to Library Research (1 cr)	
<b>Human Resources and Family Sciences Core</b>	.....14
FACS 120 or 160 (3 cr)	
FACS 280 (3 cr)	
HRFS 183 (2 cr)	
NUTR 151 and TXCD 123 (6 cr) <b>or</b> TXCD 121 and NUTR 253 (6 cr)	
<b>Family and Consumer Sciences Core</b>	.....21
FACS 160 Human Dev & the Family (3 cr)	
FACS 215 Critical Thinking Processes (3 cr)	
FACS 222 Intro to Family Finance (3 cr)	
FACS 381 Family Consultation in Human Services Professions (3 cr)	

FACS 416 Educational Programming (3 cr)	
FACS 480 Prof Issues in Family & Consumer Science (3 cr)	
FACS 488 Child & Family Policy (3 cr)	
<b>Professional Requirements .....</b>	<b>51-58</b>
Family and Consumer Sciences .....	24
Credit hours from family and consumer sciences —FACS 170 (1 cr), 171 (2 cr), 232, 333, 362, 372, 380, 382, 434, 471, 472, 481, 485, 497D (3 cr)	
Journalism .....	27-34
<i>Choose one field.</i>	
Advertising (34 cr)	
281 Intro to Advertising (3 cr)	
283 Promotional Writing (3 cr)	
333 Communication Graphics (3 cr)	
357 Advertising Copy & Strategy (3 cr)	
460 Advertising Media Strategy (4 cr)	
485 History of Mass Media (3 cr)	
486 Communications Law (3 cr)	
487 The Mass Media & Society (3 cr)	
489 Advertising Campaigns (3 cr)	
Six hours of electives in journalism (6 cr)	
Broadcasting (35 cr)	
226 Intro to Broadcasting (3 cr)	
227 Principles of Radio & TV (3 cr)	
228 Broadcasting Production (4 cr)	
369 Cinematography/Videography (3 cr)	
370 Broadcast Writing (3 cr)	
372 Advanced Reporting for Broadcasting (4 cr)	
485 History of Mass Media (3 cr)	
486 Communications Law (3 cr)	
487 The Mass Media & Society (3 cr)	
Six hours of electives in broadcasting (6 cr)	
News-Editorial (27 cr)	
280 Principles of Editing (3 cr)	
282 News Writing & Reporting (3 cr)	
284 Intro to Photojournalism (3 cr)	
371 Advanced Reporting (3 cr)	
381 Newspaper Editing (3 cr)	
485 History of Mass Media (3 cr)	
486 Communications Law (3 cr)	
487 The Mass Media & Society (3 cr)	
Three hours of electives in journalism (3 cr)	
<b>Electives .....</b>	<b>0-6</b>
	<b>Total 128-134</b>

#### 4. Family and Consumer Sciences/Journalism and Mass Media (Omaha Campus)

This option provides a broad-based multidiscipline exposure encompassing course work in human resources and family sciences and journalism. The student selects one area from public relations, news editorial, and broadcasting.

This option is to be completed only on the Omaha campus. The course numbers given are UNO course numbers.

The minimum of 128 hours required for graduation is to be met as follows.

	<b>Hours</b>
<b>Comprehensive Education.....</b>	<b>40</b>
A. Communications .....	9
One course in English composition: ENGL 1150 or 1160	
One course in intensive writing: ENGL 1160 or 2400	
One course in speech: SPCH 1110, 1120, or 3140	
B. Mathematics/Statistics .....	3
One course in mathematics: MATH 1430, 1530; ISQA 2130 or PSYC 2130	
C. Human Behavior, Culture and Social Organization.....	9
Social Sciences (6 cr)	
Two courses in psychology, sociology, anthropology or political science	
One course in research methods: CJUS 2510, PSYC 2140, or SOC 2510	
D. Science and Technology .....	4
One course in biological or physical science (w/lab)	

E. Historical Studies.....	3
One course in history	
F. Humanities.....	6
Two courses in literature, philosophy, classics, or religion	
G. Arts .....	3
One course in art, music, dance, photography, or theatre	
H. Race, Ethnicity and Gender.....	3
One course in cultural diversity	

#### Human Resources and Family Sciences Core .. 14

FMCS 2800 (3 cr)	
FMCS 1200 or 1600 (3 cr)	
HRFS 1830 (2 cr)	
TXCD 121 and NUTR 1510 (6 cr)	
<b>Family and Consumer Sciences Core .. 21</b>	
FMCS 1600 Human Development & the Family	
FMCS 2220 Personal & Family Finance	
FMCS 3810 Family Consultation	
FMCS 4160 Educational Programming	
FMCS 4800 Professional Issues	
FMCS 4880 Family Policy	
PHIL 1210 Critical Reasoning	
<b>Professional Requirements .....</b>	<b>54-57</b>

Family and Consumer Sciences .....	21
Credit hours from Family and Consumer Sciences—FMCS 3620, 3720, 3820, 4720, 4850, 4970D (3 cr); HED 3080	
Journalism .....	27-33

Public Relations (33 cr)	
JOUR 2150 News Writing/Reporting (3 cr)	
JOUR 2160 News Editing (3 cr)	
JOUR 3500 Publications Design/Graphics (3 cr)	
JOUR 4010 History of Mass Communication (3 cr)	
JOUR 4230 Principles of Public Relations (3 cr)	
JOUR 4240 Public Relations—Case Studies (3 cr)	
JOUR 4250 Public Relations—Writing (3 cr)	
JOUR 4410 Communication Law (3 cr)	
JOUR 4500 Mass Communication & Public Opinion (3 cr)	
Six hours of electives in journalism (6 cr)	
News Editorial (27 cr)	
JOUR 2150 News Writing/Reporting (3 cr)	
JOUR 2160 News Editing (3 cr)	
JOUR 3110 Photography (3 cr)	
JOUR 3270 Public Affairs Reporting (3 cr)	
JOUR 3500 Publications Design/Graphics (3 cr)	
JOUR 4010 History of Mass Communication (3 cr)	
JOUR 4410 Communication Law (3 cr)	
JOUR 4500 Mass Communication & Public Opinion (3 cr)	
Three hours of electives in journalism (3 cr)	

Broadcasting (33 cr)	
BRCT 2320 Television Production I (3 cr)	
BRCT 2370 Radio Production I (3 cr)	
BRCT 3030 Radio & TV News Writing (3 cr)	
BRCT 3320 Television Production II (3 cr)	
BRCT 3330 Television News Video (3 cr)	
BRCT 3370 Radio Production II (3 cr)	
JOUR 4010 History of Mass Communication (3 cr)	
JOUR 4410 Communication Law (3 cr)	
JOUR 4500 Mass Communication & Public Opinion (3 cr)	
Three hours of electives in journalism (3 cr)	

<b>Electives .....</b>	<b>0-2</b>
	<b>Total 128-132</b>

#### Courses of Instruction (FACS)

Students in the family science option must complete FACS 160, 280, and 222; and HRFS 183 with a 2.50 GPA in the four courses prior to enrolling in upper division courses.

##### [ES] 120. Individuals and Families as Consumers (3 cr) (UNL, UNO)

Economic problems and responsibilities of consumers. Guides for developing good buying skills for individual or household use.

**[ES] 120H. Honors: Individuals and Families as Consumers** (3 cr) (UNL) Prereq: Good standing in the University Honors Program or by invitation; or HRFS honor student.

For course description, see FACS 120.

##### [ES] 160 [160x]. 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 FACS 160.

##### 170. Introduction to Child Development (1 cr)

Introduction to the professional careers in child development and early childhood education. Guided observation in professional settings.

##### [ES] 171. Infancy (2 cr) (UNL) Prereq: FACS 160 or 160H. Parallel: FACS 171L.

Human growth and behavior from conception to two years of age.

##### 171L. Infancy Laboratory (1 cr) (UNL) Prereq: FACS 160 or 160H. Parallel: FACS 171.

Human growth and behavior from conception to two years of age.

##### 210. Teaching and Learning in Family and Consumer Sciences Classrooms (2 cr) (UNL) Prereq: 6 hrs family and consumer sciences; nutritional science and dietetics; and textiles, clothing, and design.

Seminar on the meaning of an educator, planning for instruction, knowledge of student and classroom environment.

##### [ES][IS] 215. Critical Thinking Processes (3 cr) (UNL) Prereq: Sophomore standing.

Processes to critically examine issues facing individuals, families, and societies. Use the cooperative learning model so that students can learn how cooperation can enhance social action. Content built upon critical science theory. Similarities and differences between critical thinking, practical reasoning, decision making and problem solving.

##### 222. Introduction to Family Finance (3 cr) (UNL, UNO) Prereq: Sophomore standing.

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.

##### 232. Family Resources Management (3 cr) (UNL, UNO)

Prereq: Sophomore standing. *Students in family and consumer sciences are encouraged to take FACS 280 in the same semester.* Management of personal resources for more effective living. Emphasis on management of time, energy, materials, and money for maximizing human potential. Applications are based on individual values, goals, and demands.

##### 270. Development of the Preschool Child (2 cr) (UNL)

Prereq: FACS 160 or equivalent. Parallel: FACS 270L or permission.

Growth and behavior related to the preschool years, ages two through five.

##### 270L. Development of the Preschool Child—Laboratory (2 cr) (UNL) Prereq: FACS 160 or equivalent. *This lab must be taken concurrently with FACS 270.*

Observation of and participation in the care and guidance of preschool children.

##### [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.

##### 322. Advanced Family Finance (3 cr) (UNL, UNO)

Prereq: FACS 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)

Family economy as a unit important to family members and the greater economy from a micro and macro perspective. Determinants of family resources including human capital, income and wealth as factors in standards and levels of living.

##### 372. Middle Childhood and Adolescence (3 cr) (UNL)

Prereq: FACS 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.

**377. The Hospitalized Child** (3 cr) (UNO) Prereq: FACS 170, 270, 270L. Comprehensive course dealing with the reactions of children and families to hospitalization, the developmental and emotional needs of children and their families in the health care setting.

[ES][IS] **381. Family Intervention with Fieldwork** (3 cr) (UNL, UNO) Fld. Prereq: HRFS 183 and FACS 160, 222, 280, and with an overall minimum average grade of 2.5 for these four courses. *Includes a pre-practicum fieldwork experience.* Theories and skills for assessment, intervention, and referral.

**382. Parenting** (3 cr) (UNL, UNO) Prereq: FACS 160, 280, or 380. Dimensions of mothering and fathering; psychological, social, and physiological dimensions related to the parent-child dyad and how these change throughout the family life cycle.

**396. Independent Study in Family and Consumer Sciences** (1-5 cr) (UNL) Prereq: 12 hrs in family and consumer sciences or closely related areas; and permission. Individual problems and readings in current literature under the direction of a faculty member in the department.

**396H. Honors: Independent Study in Family and Consumer Sciences** (1-5 cr) (UNL) Prereq: Good standing in the University Honors Program or by invitation; 12 hrs family and consumer sciences or closely related areas. *Open to Human Resources and Family Sciences honor program students 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 Theories and Concepts** (3 cr) (UNL) Prereq: FACS 210 or 810 or taken parallel; 15 hrs each in family and consumer sciences, nutritional science and dietetics, and textiles, clothing and design; or permission. Concepts in a critical science Family and Consumer Sciences Program. Preparation of teaching plans using these concepts.

**402/802. Instructional Models and Design of Family and Consumer Sciences Curriculum** (3 cr) (UNL) Prereq: FACS 401/801; EDPS 362. Using teaching models and family and consumer sciences concepts to design instruction for a secondary classroom.

**412/812. Developing Instruction in Family and Consumer Sciences** (2 cr) (UNL) Prereq: FACS 210 or 810, 401/801. Seminar on selecting and using curricular resources; incorporating reading, writing and listening in teaching plans; and incorporating questions and discussion in instruction.

**NOTE: All 413/813 courses require advance reservation for specific semester before enrolling in course.**

**413/813. Student Teaching in Family and Consumer Sciences** (12 cr) (UNL) Prereq: FACS 210 or 810, 401/801, 402/802, 412/812. *P/N only.* Actual experiences in teaching of family and consumer sciences. Minimum of fourteen weeks supervised student teaching experience. One middle-level and one high school experience completed by the student.

**414D. Supervised Experiences in Home Economics-Community Services** (3-6 cr) (UNO I) Prereq: 15 hrs family and consumer science; 6 hrs social work. Actual and simulated experiences in working with persons who utilize consumer services that are available through selected community agencies.

**416/816. Educational Programming** (3 cr) (UNL, UNO) Prereq: Junior standing or permission. *Not open to family and consumer sciences education majors in certification track.* Planning and implementing developmentally appropriate educational experiences for a variety of audiences in non-formal settings.

**422/822. Financial Counseling** (3 cr) (UNL, UNO) Prereq: FACS 222, 322, 381, and 434. Will enable students to work with individuals and families in attaining economic well-being through making them aware of their alternatives, helping them make productive use of their resources, or assisting them in resolving financial crises.

**434/834. Decision Making** (3 cr) (UNL, UNO) Prereq: FACS 232 and 280. Decision-making theory related to family and small group situations. Emphasis on types of decisions and decision-making rules. Participation in learning activities that emphasize decision-making skills.

**438/838. Problems in Family Resources** (1-3 cr, max 6) (UNL, UNO) Prereq: Permission. Readings, observations, projects, and discussion on current issues in family resources. alternatives in achieving these.

**462/862. Adulthood and Aging** (3 cr) (UNL) Prereq: HRFS 183 and FACS 160, 215, 222, 280, and with an overall minimum average grade of 2.5 for these five courses. Human development from young adulthood to old age with emphasis on interaction of, and changes in, physical, psychological, and social-relational development.

**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.

**472/872. The Adolescent in the Family** (3 cr) (UNL, UNO) Prereq: 12 hrs family and consumer sciences, or social science or permission. Scientific literature concerning the interrelationships of the physiological, psychological, and sociological aspects of the adolescent and young adulthood years. Emphasis on understanding of the individual and his/her continuous adjustment within the family life cycle as he/she makes the transition from childhood to adulthood.

**474/874. Assessment of the Young Child** (3 cr) (UNL) Prereq: 12 hrs family and consumer science or social sciences including FACS 270, 270L. Selection, use, and interpretation of assessment instruments for understanding the developmental level of children.

**476/876. Cognitive Processes in Children** (3 cr) (UNL) Prereq: 12 hrs family and consumer sciences and/or social sciences including FACS 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 human development and the family including FACS 270 or permission. Administration of early childhood programs.

**480. Professional Issues in Family and Consumer Sciences** (3 cr) (UNL, UNO) Prereq: HRFS 183; FACS 160, 215, 222, 280, and 381; a minimum 2.5 GPA in each of the preceding prerequisite courses; or permission. Consideration of current subjects in family and consumer sciences research. Professional issues in working with children and families. Questions of ethics and values.

[ES] **481/881. Family Violence** (3 cr) (UNL, UNO) Prereq: 12 hrs family and consumer sciences and/or social sciences. Literature on family violence including child abuse, spouse abuse, and elder abuse. Theories of family violence as well as causes, characteristics, and treatment.

[IS] **483/883. Women in Families** (3 cr) (UNL) Prereq: 12 hrs family and consumer sciences and/or social sciences. Detailed analysis and investigation of women and their development, roles, contributions, and relationships in families. Exploration, identification and ramifications of women's issues within the family. Private and professional implications of women's issues in families.

**485/885. Contemporary Family Issues** (1-3 cr) (UNL, UNO) Prereq: HRFS 183, and FACS 160, 280, 232, or permission. Current family related issues such as cross cultural families, work and family, addiction in families, gender and family.

[ES] [IS] **488/888. Child and Family Policy** (3 cr) (UNL, UNO) Prereq: FACS 160, 215, 222, 280 and HRFS 183. Detailed 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: FACS 270, 270L. Special topics in early childhood education. Topics vary.

**496/896. Advanced Independent Study** (1-5 cr) (UNL, UNO) Prereq: 12 hrs in family and consumer sciences and/or social sciences. *Work supervised and evaluated by departmental faculty members.* Individual projects in research, literature review, or creative production may or may not be an extension of course work.

**NOTE: All 497/897 courses require advance application and reservation for specific semester before enrolling in course.**

**497A/897A. Practicum in Early Childhood Education** (6-9 cr) (UNL) Lec 3, lab 20. Prereq: FACS 270 or equivalent, and FACS 270L with grade of C or above, or permission. *P/N only. Early childhood education majors must take this course for 9 credits.*

Integrating developmental theory into the planning, implementation, and evaluation of individual and group experiences for young children in child development laboratory.

**497D/897D. Practicum in Family and Consumer Sciences** (3-6 cr, max 6) (UNL, UNO) Fld. Prereq: HRFS 183; FACS 160, 215, 222, 280, and 381 with an overall minimum GPA of 2.5 in these courses; or permission. *P/N only.* Appropriate fieldwork experiences in area of emphasis.

**498/898. Research Experience in Family and Consumer Sciences** (1-5 cr) (UNL, UNO) Prereq: 18 hrs in family and consumer sciences and/or social sciences. A completed contract form is required before registering. Participation in an ongoing research project in Child Development Studies/Early Childhood Education, Family Science, Marriage and Family Therapy, Family Financial Management, or Family and Consumer Sciences Education.

**807. Supervisory Leadership** (ALEC 807) (1-6 cr) (UNL)

**810. Teaching and Learning in FACS Classrooms** (2 cr) (UNL) Prereq: 6 hrs in FACS, NUTR, or TXCD.

**811. Perspectives on Family and Consumer Sciences** (1 cr each, 3 max) (UNL) Prereq: 24 hrs family and consumer sciences, preferably distributed among the subject fields.

**A. Historical Development of Family and Consumer Sciences**

**B. Current Issues in Society and Implications for Family and Consumer Sciences**

**D. Future Trends and Professions in Consumer Science**

**E. Future Trends and Professions in Family and Consumer Sciences Education**

**815. Advanced Teaching Methods in Family and Consumer Sciences Education** (3 cr) (UNL)

**821. Insurance Planning for Families** (3 cr)

**822. 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.

**858. Housing and the Family** (3 cr) Prereq: Permission.

**860. Employee Assistance Program Seminar** (3 cr) Prereq: An 800-level family and consumer sciences course, MNGT 861, EDPS 882, 868, or permission.

**865. Research Design and Methods** (3 cr) (UNL)

**\*867. Implementing Research and Scholarly Practice** (2 cr) Prereq: FACS 865.

**870. The Older Child** (3 cr) (UNL, UNO) Lec 3, lab arr. Prereq: 12 hrs family and consumer sciences or social sciences.

**882. Parent Education** (3 cr) (UNL) Lec, lab arr. Prereq: 12 hrs family and consumer sciences and/or social sciences.

**886. Divorce and Step Parenting** (3 cr) Prereq: 12 hrs family and consumer sciences 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 family and consumer sciences 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**

**893. Workshop: Special Topics** (1-6 cr) (UNL) Prereq: 12 hrs family and consumer sciences or permission of departmental chair.

**897. Supervised Educational Experiences in Family and Consumer Sciences** (1-6 cr) (UNL) Prereq: Permission. Actual and simulated education experiences in family and consumer sciences. *P/N only.*

**899. Masters Thesis** (6-10 cr) (UNL)

Refer to the Graduate Bulletin for 900-level courses.

## Department of Nutritional Science and Dietetics

**Chair:** Associate Professor Marilyn Schnepf

**Professors:** Betts, Driskell

**Associate Professors:** Albrecht, Boeckner, Hamouz, Lewis, Martin, Stanek

**Assistant Professor:** Carr

**Extension Assistant Professor:** Koszewski

**Senior Lecturer:** Benes

**Lecturer:** Young

There are five options in the Department of Nutritional Science and Dietetics. The dietetics option, the nutrition science option, the restaurant and foodservice administration option, the dietetics/journalism and mass media option, and the foods option are offered on the Lincoln campus. The dietetics, restaurant and foodservice administration, and nutrition science options are offered on the Omaha campus.

### Graduate Study

Advanced degrees of master of science in nutritional science and dietetics and master of science and doctor of philosophy degrees are offered in the interdepartmental nutrition program as well as in human resources and family sciences. For details see the *Graduate Studies Bulletin*.

### 1. Dietetics

The dietetics option is designed for students who wish to become practitioners in clinical, community, and foodservice areas of nutrition. The University of Nebraska Didactic Program in Dietetics is currently granted approval status by the commission on Accreditation/Approval for Dietetics Education of The American Dietetic Association, 216 W Jackson Blvd., Chicago, IL 60606-6995, 312/899-4876. Upon graduation all students will receive a verification statement indicating completion of program requirements.

The Department of Nutritional Science and Dietetics will provide a Verification Statement of a student meeting Didactic Program in Dietetics 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.

In order to receive a Verification Statement of a student meeting Didactic Program in Dietetics requirements, a minimum of 15 credits from 300- or 400-level courses must be completed at the University of Nebraska-Lincoln or the University of Nebraska at Omaha. Nine of the 15 credit hours must come from four of the following classes: NUTR 450 Applied Medical Nutrition Therapy, NUTR 452/452L Medical Nutrition Therapy, NUTR 455 Advanced Nutrition, or NUTR 473 Organization and Administration for Foodservice.

Following graduation, an accredited/approved supervised practice is required before students are eligible to take the registration examination. Registered dietitians are employed by hospitals, community agencies, and various government or private organizations. The minimum of 128 credit hours required for graduation is to be met as follows:

	Hours	
<b>Comprehensive Education</b>	<b>36-39</b>	Professional Supporting Courses.....6-7 AGRI 271 Intro to Computer Applications in Agriculture <b>or</b> CSCÉ 101/101L Fundamentals of Computers (3-4 cr) MNGT 360 Managing Behavior in Organizations (3 cr)
A. Communications	6	Electives .....9-16 <i>Select IS courses as needed.</i>
ENGL 101 Comp & Lit I or 102 Comp & Lit II or 150 Comp I or 151 Comp II or JGEN 200 Tech Comm I or 300 Tech Comm II (3 cr); <b>and</b> COMM 109 Fund of Human Comm or COMM 209 Public Speaking (3 cr)		<b>Total 128</b>
B. Mathematics and Statistics	3-6	
MATH 101 or higher, trigonometry or calculus (3 cr) ( <i>Math requirement waived if placed above MATH 101 on Math Placement Exam</i> ); <b>and</b> STAT 180 Elements of Statistics or BIOM 201 Intro to Biometry or EDPS 459 Statistical Methods (3 cr)		
C. Human Behavior, Culture and Social Organization	10	
PSYC 181 Intro to Psychology (4 cr); <b>and</b> <i>Select 6 hrs from Essential Studies list section C.</i>		
D. Science and Technology	4	
BIOS 101/101L General Biology (4 cr)		
E. Historical Studies	3	
<i>Select from Essential Studies list section E.</i>		
F. Humanities	3	
<i>Select from Essential Studies list section F</i>		
G. Arts	3	
<i>Select from Essential Studies list section G.</i>		
H. Race, Ethnicity and Gender	3	
NUTR 253 Cultural Aspects of Food & Nutrition (3 cr)		
I. Information, Discovery, and Retrieval	1	
LIBR 110 Intro to Library Research (1 cr)		
<b>Human Resources and Family Sciences Core .. 14</b>		
FACS 120 and 280 (6 cr)		
HRFS 183 (2 cr)		
NUTR 151 (3 cr)		
TXCD 123 (3 cr)		
<b>Professional Requirements .....</b>	<b>62-66</b>	
Nutritional Science and Dietetics	34-35	
NUTR 150 Intro to Dietetics (1 cr)		
NUTR 244 Scientific Principles of Food Prep (3 cr)		
NUTR 245 Scientific Principles of Food Prep Lab (1 cr)		
NUTR 344 Food & Nutrition for Healthy Living (3 cr)		
NUTR 356 Nutrition Education in the Community (3 cr)		
NUTR 370 Food Production Mngt (3 cr)		
NUTR 371 Applied Food Production Lab (1 cr)		
NUTR 450 Applied Medical Nutrition Therapy (3 cr)		
NUTR 452 Medical Nutrition Therapy (3 cr)		
NUTR 452L Medical Nutrition Therapy Lab (1 cr)		
NUTR 453 Communication Strategies for the Dietetic Professional (2 cr)		
NUTR 455 Advanced Nutrition (3 cr)		
NUTR 457 Classroom & Outreach Experiences in Food & Nutrition (1 cr) <b>or</b> NUTR 454 Peer Nutrition Education (2 cr)		
NUTR 473 Organization & Administration of Foodservice (3 cr)		
NUTR 490 Professional Preparation for Careers in Dietetics (1 cr)		
<b>Supporting Sciences .....</b>	<b>22-24</b>	
CHEM 109 General Chemistry I (4 cr)		
CHEM 110 General Chemistry II (4 cr)		
CHEM 251 Organic Chemistry and CHEM 253 Organic Chemistry Lab (4 cr)		
BIOC 321 and 321L Elements of Biochemistry & Lab or 431 Biochemistry I (3-4 cr)		
BIOS 111 The Biology of Microorganisms or 312 Fund of Microbiology and 314 Microbiology Lab (4 cr) <b>or</b> NUTR 372 Food Safety & Sanitation (3 cr)		
BIOS 213 Human Physiology or ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr)		
<b>Professional Requirements .....</b>	<b>57-61</b>	
Nutritional Science and Dietetics	15-16	
NUTR 244 Scientific Principles of Food Preparation (3 cr)		
NUTR 245 Scientific Principles of Food Preparation Lab (1 cr)		
NUTR 370 Food Production Mngt (3 cr)		
NUTR 371 Applied Food Production Lab (1 cr)		
NUTR 445 Experimental Foods or 441 Functional Properties of Foods (3 cr)		
NUTR 455 Advanced Nutrition (3 cr)		
NUTR 457 Classroom & Outreach Experiences in Food & Nutrition (1 cr) <b>or</b> NUTR 454 Peer Nutrition Education (2 cr)		
<b>or</b> NUTR 498 Research Experiences (1 cr)		
Food Science and Technology.....		11
FDST 203 Food Composition (2 cr)		
FDST 207 Analysis & Properties of Food Production (3 cr)		

FDST 405 Food Microbiology (3 cr)	
FDST 448 Food Chemistry (3 cr)	
Supporting Sciences.....	22-24
CHEM 109 General Chemistry I (4 cr)	
CHEM 110 General Chemistry II (4 cr)	
CHEM 251 Organic Chem and CHEM 253 Organic Chem Lab (4 cr)	
BIOC 321/321L Elements of Biochemistry & Lab or 431 Biochemistry I (3-4 cr)	
BIOS 111 The Biology of Microorganisms or 312 Fund of Microbiology and 314 Microbiology Lab (4 cr) or NUTR 372 Food Safety & Sanitation (3 cr)	
BIOS 213 Human Physiology or ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr)	
Professional Supporting Courses.....	9-10
AGR1 271 Intro to Computer Applications in Agriculture <b>or</b> CSCE 101/101L Fundamentals of Computers (3-4 cr)	
MNGT 360 Managing Behavior in Organiza- tions (3 cr)	
MRKT 341 Marketing (3 cr)	
Electives.....	14-22
Select IS courses as needed.	
	<b>Total 128</b>

### 3. Restaurant and Foodservice Administration

This option prepares students for managerial and administrative positions in the restaurant and foodservice industries. Career opportunities can be found in hotels, restaurants, fast food restaurants, private clubs, health care, corporations, and the armed forces. A practicum is required. The minimum of 128 credit hours required for graduation is to be met as follows.

	<b>Hours</b>
<b>Comprehensive Education</b> .....	<b>41-43</b>
A. Communications.....	6
ENGL 101 Comp & Lit I or 102 Comp & Lit II or 150 Comp I or 151 Comp II or JGEN 200 Tech Comm I or 300 Tech Comm II (3 cr); <b>and</b>	
COMM 109 Fund of Human Comm or 209 Public Speaking (3 cr)	
B. Mathematics and Statistics.....	6
STAT 180 Elements of Statistics or BIOM 201 Intro to Biometry or EDPS 459 Statistical Methods or ECON 215 Statistics (3 cr); <b>and</b>	
MATH 101 or higher, trigonometry or calculus (3 cr)	
C. Human Behavior, Culture, and Social Organization.....	8-10
PSYC 181 Intro to Psychology or SOCI 101 Intro to Sociology (3-4 cr); <b>and</b>	
ECON 210 Intro to Economics or ECON 211 and 212 Principles of Macro- and Microeconomics (5-6 cr)	
D. Science and Technology.....	8
CHEM 105 Chemistry & the Citizen I and CHEM 106 Chemistry & the Citizen II (8 cr) <b>or</b>	
CHEM 109 General Chemistry I and CHEM 110 General Chemistry II (8 cr)	
E. Historical Studies.....	3
Select from Essential Studies list section E.	
F. Humanities.....	3
PHIL 220 Elements of Ethics or ALEC 388 Ethics in Agric & Natural Resources or PHIL 213 Medical Ethics or UHON 395 Business Ethics (3 cr)	
G. Arts.....	3
Select from Essential Studies list section G.	
H. Race, Ethnicity and Gender .....	3
Select one of the following:	
COMM 211 Intercultural Communication (3 cr)	
COMM 380 Gender & Communications (3 cr)	
NUTR 253 Cultural Aspects of Food & Nutrition (3 cr)	
SOCI 200 Women in Contemporary Society (3 cr)	
SOCI 217 Nationality & Race Relations (3 cr)	
SOCI 218 Chicanos in American Society (3 cr)	

Information, Discovery and Retrieval .....	1
LIBR 110 Intro to Library Research (1 cr)	
<b>Human Resources and Family Sciences Core</b> ... <b>14</b>	
FACS 120 and 280 (6 cr)	
HRFS 183 (2 cr)	
NUTR 151 (3 cr)	
TXCD 123 (3 cr)	
<b>Professional Requirements</b> ..... <b>64-69</b>	
Nutritional Science and Dietetics.....	34-39
MNGT 198D Business Computer Applications (1 cr) <b>or</b> AGRI 271 Intro to Computer Application in Agriculture (3 cr) <b>or</b> CSCE 101 and 101L Fundamentals of Computing (3 cr) and lab (1 cr)	
NUTR 170 Intro to Restaurant/Foodservice Management (1 cr)	
NUTR 244 Scientific Principles of Food Preparation (3 cr)	
NUTR 245 Scientific Principles of Food Preparation Lab (1 cr)	
NUTR 370 Food Production Mngt (3 cr)	
NUTR 371 Applied Food Production Lab (1 cr)	
NUTR 372 Food Safety & Sanitation (3 cr)	
NUTR 374 Menu & Service Management (2 cr)	
NUTR 457 Classroom & Outreach Experi- ences in Food & Nutrition (1 cr) <b>or</b> NUTR 498 Research Experiences (1 cr)	
NUTR 469 Foodservice Facility Planning & Design (2 cr)	
NUTR 470 Cost Control for Foodservice (2 cr)	
NUTR 473 Organization & Admin of Foodservice (3 cr)	
NUTR 474 Food and Beverage Mgt (4 cr)	
NUTR 476 Restaurant & Foodservice Mgt Study Tour (1 cr)	
NUTR 497 Practicum in Foodservice Management (6 cr)	
Accounting.....	6
ACCT 201 Introductory Accounting or 306 Survey of Accounting (3 cr)	
ACCT 371 Legal Environment (3 cr)	
Marketing.....	3
MRKT 341 Marketing (3 cr)	
Management.....	12
MNGT 320 Principles of Mgt (3 cr)	
MNGT 360 Managing Behavior in Organizations or 361 Personnel/Human Resource Mgt (3 cr)	
Electives (6 cr)	
Select from management, marketing, accounting, finance or economics	
Finance.....	3
FINA 361 Finance (3 cr)	
Communication/Leadership Electives.....	6
Select 6 hours from the following:	
Any communications course (except COMM 109 or 209 or 211 or 380); <b>and/or</b>	
ALEC 102 Interpersonal Skills for Agricultural Leadership (3 cr); <b>and/or</b>	
ALEC 202 Leadership Development of Agri- culture and/or MNGT 467 Leadership in Organizations (3 cr)	
Electives.....	2-9
Select IS courses as needed.	
	<b>Total 128</b>

### 4. Nutrition Science

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, pre 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 128 credit hours required for graduation is to be met as follows.

	<b>Hours</b>
<b>Comprehensive Education</b> .....	<b>39</b>
A. Communications.....	6
ENGL 101 Comp & Lit I or 102 Comp & Lit II or 150 Comp I or 151 Comp II or JGEN 200 Tech Comm I or 300 Tech Comm II (3 cr); <b>and</b>	
COMM 109 Fund of Human Comm or ALEC 102 Interpersonal Skills (3 cr)	
B. Mathematics and Statistics.....	6
MATH 101 or higher, trigonometry or calculus (3 cr) <b>and</b>	
BIOM 201 Intro to Biometry or EDPS 459 Statistical Methods (3 cr)	
C. Human Behavior, Culture, and Social Organization.....	10
PSYC 181 Intro to Psychology (4 cr); <b>and</b> Select 6 hrs from Essential Studies list section C (3 hrs must be Integrative Studies).	
D. Science and Technology.....	4
CHEM 109 General Chemistry I or 113 Fundamental CHEM I (4 cr)	
E. Historical Studies.....	3
Select from Essential Studies list section E.	
F. Humanities.....	3
Select from Essential Studies list section F (selection must be Integrative Studies).	
G. Arts.....	3
Select from Essential Studies list section G.	
H. Race, Ethnicity and Gender .....	3
NUTR 253 Cultural Aspects of Food & Nutrition or COMM 211 Intercultural Comm or SOCI 200 Women in Contemporary Society or 217 Nationality & Race Relations (3 cr)	
Information, Discovery, and Retrieval .....	1
LIBR 110 Intro to Library Research (1 cr)	
<b>Human Resources and Family Sciences Core</b> .. <b>14</b>	
FACS 120 and 280 or 160 (6 cr)	
HRFS 183 (2 cr)	
NUTR 151 (3 cr)	
TXCD 123 (3 cr)	
<b>Professional Requirements</b> ..... <b>60-66</b>	
Nutritional Science and Dietetics.....	21
NUTR 244 Scientific Principles of Food Preparation (3 cr)	
NUTR 245 Scientific Principles of Food Preparation Lab (1 cr)	
NUTR 344 Food & Nutrition for Healthy Living (3 cr)	
NUTR 356 Nutrition Education in the Community (3 cr)	
NUTR 450 Applied Medical Nutrition Therapy (3 cr)	
NUTR 452 Medical Nutrition Therapy (3 cr)	
NUTR 452L Medical Nutrition Therapy Lab (1 cr)	
NUTR 455 Advanced Nutrition (3 cr)	
NUTR 457 Classroom & Outreach Experi- ences in Food & Nutrition (1 cr) <b>or</b> NUTR 498 Research Experiences (1 cr)	
Supporting Sciences.....	31-34
BIOC 431 Biochemistry (3-4 cr)	
BIOS 101/101L General Biology or BIOS 201 Cell Structure (4 cr)	
BIOS 213/213L Human Physiology (4 cr)	
BIOS 312 Fund of Microbiology and 314 Microbiology Lab (4 cr)	
CHEM 110 General Chemistry II (4 cr) or 114 Fundamental Chemistry II and 116 Quantitative Chemistry Lab (5 cr)	
CHEM 251 Organic Chemistry and 253 Organic Chemistry Lab (4 cr)	

PHYS 141 Elementary General Physics and 142 Elementary General Physics (10 cr) <b>or</b> PHYS 211 General Physics and 212 General Physics (8 cr)	
Professional Supporting Courses.....	8-11
Select <i>Integrative Studies</i> courses as needed.	
Select 8-11 hrs from any of the following: BIOS (any course 300 or above); CHEM (any course 200 or above); PHYS (any course 200 or above); FDST (any course 400 or above); VBMS (any course 300 or above); MATH 102 or higher; HHPT 207 Human Anatomy, 486 Exercise Physiology; PSYC 380 Abnormal Psychology; PHIL 213 Medical Ethics; NUTR 453 Communication Strategies for the Dietetic Professional	
Electives .....	12
Select <i>Integrative Studies</i> courses as needed.	
	<b>Total 128</b>

## 5. Dietetics/Journalism and Mass Media

The dietetics/journalism and mass media option provides an opportunity for students to combine an interest in journalism with a major in dietetics. The University of Nebraska Didactic Program in Dietetics is currently granted approval status by the commission on Accreditation/Approval for Dietetics Education of The American Dietetic Association, 216 W Jackson Blvd., Chicago, IL 60606-6995, 312/899-4876. Upon graduation all students will receive a verification statement indicating completion of program requirements. Students can choose between an emphasis in advertising, broadcasting, or news editorial. The Department of Nutritional Science and Dietetics will provide a Verification Statement of a student meeting Didactic Program in Dietetics 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.

In order to receive a Verification Statement of a student meeting Didactic Program in Dietetics requirements, a minimum of 15 credits from 300- or 400-level courses must be completed at the University of Nebraska-Lincoln or the University of Nebraska at Omaha. Nine of the 15 credit hours must come from four of the following classes: NUTR 450 Applied Medical Nutrition Therapy, NUTR 452/452L Medical Nutrition Therapy, NUTR 455 Advanced Nutrition, or NUTR 473 Organization and Administration for Foodservice.

Following graduation, an accredited/approved supervised practice is required before students are eligible to take the registration examination. Registered dietitians are employed by hospitals, community agencies, and various government or private organizations. 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 151 (advertising and broadcasting) and 148 (news editorial) credit hours required for graduation are met as follows:

	<b>Hours</b>	
<b>Comprehensive Education.....</b>	<b>36-39</b>	
Communications.....	6	
ENGL 101 Comp & Lit I or 102 Comp & Lit II or 150 Comp I or 151 Comp II or JGEN 200 Tech Comm I or 300 Tech Comm II (3 cr); <b>and</b>		
COMM 109 Fund of Human Comm or 209 Public Speaking (3 cr)		
B. Mathematics and Statistics .....	3-6	
MATH 101 or higher, trigonometry or calculus (3 cr) ( <i>Math requirement waived if placed above MATH 101 on Math Placement Exam</i> ); <b>and</b>		
STAT 180 Elements of Statistics or BIOM 201 Intro to Biometry or EDPS 459 Statistical Methods (3 cr)		
C. Human Behavior, Culture, and Social Organization .....	10	
PSYC 181 Intro to Psychology (4 cr)		
Select 6 hrs from <i>Essential Studies</i> list section C.		
D. Science and Technology .....	4	
BIOS 101/101L General Biology (4 cr)		
E. Historical Studies.....	3	
Select from <i>Essential Studies</i> list section E.		
F. Humanities.....	3	
Select from <i>Essential Studies</i> list section F		
G. Arts .....	3	
Select from <i>Essential Studies</i> list section G.		
H. Race, Ethnicity and Gender.....	3	
NUTR 253 Cultural Aspects of Food & Nutrition (3 cr)		
Information, Discovery, and Retrieval.....	1	
LIBR 110 Intro to Library Research (1 cr)		
<b>Human Resources and Family Sciences Core .. 14</b>		
FACS 120 and 280 (6 cr)		
HRFS 183 (2 cr)		
NUTR 151 (3 cr)		
TXCD 123 (3 cr)		
<b>Professional Requirements .....</b>	<b>62-66</b>	
Nutritional Science and Dietetics .....	34-35	
NUTR 150 Intro to Dietetics (1 cr)		
NUTR 244 Scientific Principles of Food Preparation (3 cr)		
NUTR 245 Scientific Principles of Food Preparation Lab (1 cr)		
NUTR 344 Food & Nutrition for Healthy Living (3 cr)		
NUTR 356 Nutrition Education in the Community (3 cr)		
NUTR 370 Food Production Mngt (3 cr)		
NUTR 371 Applied Food Production Lab (1 cr)		
NUTR 450 Applied Medical Nutrition Therapy (3 cr)		
NUTR 452 Medical Nutrition Therapy (3 cr)		
NUTR 452L Medical Nutrition Therapy Lab (1 cr)		
NUTR 453 Communication Strategies for the Dietetic Professional (2 cr)		
NUTR 455 Advanced Nutrition (3 cr)		
NUTR 457 Classroom & Outreach Experiences in Food & Nutrition (1 cr) <b>or</b> NUTR 454 Peer Nutrition Education (2 cr) <b>or</b> NUTR 498 Research Experiences (1 cr)		
NUTR 470 Cost Control for Foodservice (2 cr)		
NUTR 473 Organization & Admin of Foodservice (3 cr)		
NUTR 490 Professional Preparation for Careers in Dietetics (1 cr)		
Supporting Sciences .....	22-24	
CHEM 109 General Chemistry I (4 cr)		
CHEM 110 General Chemistry II (4 cr)		
CHEM 251 Organic Chemistry and 253 Organic Chemistry Lab (4 cr)		
BIOC 321/321L Elements of Biochemistry & Lab or BIOC 431 Biochemistry I (3-4 cr)		
BIOS 111 The Biology of Microorganisms or 312 Fund of Microbiology and 314 Microbiology Lab (4 cr) or NUTR 372 Food Safety & Sanitation (3 cr)		
BIOS 213 Human Physiology or ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr)		
Professional Supporting Courses.....	6-7	
AGRI 271 Intro to Computer Applications in Agriculture <b>or</b> CSCÉ 101/101L Fundamentals of Computers (3-4 cr)		
MNGT 360 Managing Behavior in Organizations (3 cr)		
Select one of the following Journalism and Mass Media Emphasis Areas		
<b>Advertising Emphasis.....</b>	<b>35</b>	
ADVT 281 Intro to Advertising (3 cr)		
ADVT 283 Promotional Writing (3 cr)		
ADVT 333 Communication Graphics (3 cr)		
ADVT 357 Advertising Copy & Strategy (3 cr)		
ADVT 460 Advertising Media Strategy (4 cr)		
ADVT 489 Advertising Campaigns (4 cr)		
JOUR 483 History of Mass Media (3 cr)		
JOUR 486 Communications Law (3 cr)		
JOUR 487 Mass Media & Society (3 cr)		
Select 6 hours of electives in journalism (6 cr)		
	<b>Total 147</b>	
<b>Broadcasting Emphasis .....</b>	<b>35</b>	
BRDC 226 Intro to Broadcasting (3 cr)		
BRDC 227 Principles of Radio/TV (3 cr)		
BRDC 228 Broadcasting Production (3 cr)		
BRDC 228L Broadcasting Production Lab (1 cr)		
BRDC 369 Cinematography/Video (3 cr)		
BRDC 370 Broadcast Writing (3 cr)		
BRDC 372 Adv Reporting for Broadcasting (3 cr)		
BRDC 372L Adv Reporting for Broadcasting Lab (1 cr)		
JOUR 485 History of Mass Media (3 cr)		
JOUR 486 Communications Law (3 cr)		
JOUR 487 Mass Media & Society (3 cr)		
Select 6 hours of electives in journalism, 3 of which must be in broadcasting (6 cr)		
	<b>Total 147</b>	
<b>News Editorial Emphasis .....</b>	<b>32</b>	
NEWS 280 Principles of Editing (3 cr)		
NEWS 282 News Writing & Reporting (3 cr)		
NEWS 217 Typography (3 cr)		
NEWS 284 Intro to Photojournalism (3 cr)		
NEWS 371 Advanced Reporting (4 cr)		
NEWS 381 Newspaper Editing (4 cr)		
JOUR 485 History of Mass Media (3 cr)		
JOUR 486 Communications Law (3 cr)		
JOUR 487 Mass Media & Society (3 cr)		
Select 3 hours of electives in journalism (3 cr)		
	<b>Total 144</b>	
<b>Courses of Instruction (NUTR)</b>		
<b>[ES] 131. The Science of Food (CHEM, FDST 131) (3 cr)</b>		
Lec 3.		
For course description, see FDST 131.		
<b>144. Fine Food and Wine (3 cr) (UNL)</b>		
Prereq: 21+ years of age.		
Preparation techniques, garnishing and presentation of gourmet foods. Survey of domestic and international wine growing regions, varietal characteristics and terminology and labeling customs. Service of wine to enhance food characteristics.		
<b>150. Introduction to Dietetics (1 cr) (UNL, UNO) P/N only</b>		
Philosophy and goals of the department, curriculum requirements, practical work experiences, routes to registration, employment and career opportunities, and advanced degree programs.		
<b>[ES][IS] 151 [151x]. Introduction to Nutrition (3 cr) (UNL, UNO)</b>		
Survey of the science of human nutrition and relationships between nutrition and health of individuals and groups throughout life and in special nutritional problems.		
<b>170. Introduction to Restaurant/Foodservice Management (1 cr) (UNL, UNO) Lec 1.</b>		
Orientation to restaurant/foodservice management, industry characteristics organization al structure, growth, trends in dining and career opportunities.		
<b>[ES] 244. Scientific Principles of Food Preparation (3 cr) (UNL) Lec 3.</b>		
Prereq: Sophomore standing.		
Chemical, physical, sensory, and nutritional principles of food preparation.		

**[ES] 245. Scientific Principles of Food Preparation Laboratory** (1 cr) (UNL) Lab 1. Prereq: Parallel NUTR 244. Application of chemical, physical, sensory, and nutritional principles of food preparation.

**[ES][IS] 253. Cultural Aspects of Food and Nutrition** (3 cr) (UNL, UNO) Lec 3. Prereq: NUTR 151. Understanding of the influences of culture on food and nutrition practices.

**255. Nutrition Minicourse** (1 cr) (UNL) Basic concepts, current issues, and resources in the field of nutrition.

**298. Special Topics in Nutritional Science and Dietetics** (1-6 cr) (UNL, UNO) Prereq: As announced by department. Wide variety of topics at the undergraduate level.

**299. Independent Study** (1-5 cr) (UNL, UNO) 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.

**344. Food and Nutrition for Healthy Living** (3 cr) (UNL) Lec 2, lab 1. Prereq: NUTR 151, 244, and 245. Integration of current dietary guidelines, assessment methodologies, and meal preparation techniques in promotion of healthy living.

**[IS] 356. Nutrition Education in the Community** (3 cr) (UNL, UNO) Lec 3. Prereq: NUTR 151, 253. 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) (UNL) Lec 3. Application of food production and purchasing principles in foodservice management.

**371. Applied Food Production Laboratory** (1 cr) (UNL) 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) 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. Enables students to assess hazards, identify critical control points and establish monitoring and system verification procedures.

**374. Menu and Service Management** (2 cr) Lab 2. Prereq: NUTR 371. Concepts of menu and service management. Planning, production, service and evaluation of fine dining experiences. Computer application in menu planning, recipe standardization, and nutritional and cost analysis.

**441/841. Functional Properties of Food** (FDST 441/841) (3 cr) (UNL) Lec 2, lab 3. Prereq: NUTR 340 and BIOC 321 or FDST 448/848 or permission. Relationship of structure and functionality of ingredients in food systems.

**445/845. Experimental Foods** (FDST 445/845) (3 cr) (UNL) Lec 1, lab 6. Prereq: NUTR 340, BIOC 321 or permission. Introduction to food research; application of research techniques to selected problems.

**450. Applied Medical Nutrition Therapy** (3 cr) (UNL) Lec 3. Prereq: BIOC 321 and 321L, or BIOC 431; BIOS 213 or ASCI 240. Application of nutrition in the clinical setting. Documentation of nutrition services, nutritional assessment, nutrition counseling, food/drug interactions, and computer analysis of modified diets.

**451/851. Nutrition Problems** (1-6 cr) (UNL) Prereq: NUTR 350 or equivalent and permission. Individual problems may be selected in diet therapy, animal feeding, metabolism studies, or surveys.

**[ES][IS] 452. Medical Nutrition Therapy** (3 cr) (UNL) Lec 3. Prereq: NUTR 344 and 450. Parallel NUTR 452L. Nutrition in the disease state including physiological and biochemical basis of nutrition care and nutrition therapy.

**452L. Medical Nutrition Therapy Laboratory** (1 cr) (UNL) Lab 3. Prereq: Parallel NUTR 452. Assessment and screening techniques, medical record reviews, care plan development and documentation techniques relative to disease states.

**453. Communication Strategies for the Dietetic Professional** (2 cr) (UNL) Lec 2. Prereq: NUTR 344 and 356. Communication strategies utilized by nutrition professionals in community settings, health facilities, and nutrition programs.

**454. Peer Nutrition Education** (2 cr) Lec 1, lab 3. Prereq: Junior standing; dietetics major; NUTR 151 and 251; COMM 109; or permission. Practical experience in developing skills in nutrition for health promotion and nutrition education.

**[ES][IS] 455. Advanced Nutrition** (3 cr) (UNL) Lec 3. Prereq: BIOC 321 and 321L, or BIOC 431; BIOS 213 or ASCI 240, or parallel. Nutrients essential for humans with emphasis on sources and factors affecting utilization and metabolism.

**457/857. Classroom and Outreach Experiences in Food and Nutrition** (1-3 cr, max 3) (UNL, UNO) Fld. Supervised classroom or outreach experiences in educational or community settings.

**458/858. Nutrition and Exercise** (3 cr) (UNL) Lec 3. Prereq: NUTR 151, physiology, 6 hrs chemistry or biological science, and senior or graduate standing or permission. Provides practical knowledge of the synergistic effects of proper nutrition and exercise on health and physical performance. Overview of normal nutrition provides the basis for exploring the influence of dietary components and exercise on chronic disease development.

**469/869. Foodservice Facility Planning and Design** (2 cr) (UNL, UNO) Lec 1, lab 3. Prereq: NUTR 370. *Field trips to local equipment houses*.

Planning and design essentials for the foodservice industry which result in efficient resource utilization in the production of quality food and service. Selection and specification of foodservice equipment and furnishings.

**470/870. Cost Control for Foodservice** (2 cr) (UNL, UNO) 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.

**[IS] 473/873. Organization and Administration of Foodservice** (3 cr) (UNL, UNO) Lec 3. Prereq: NUTR 370. Organizational, administrative, and human relations concepts to foodservice. Utilization of computer applications in administration of a foodservice facility.

**474/874. Food and Beverage Management** (4 cr) (UNL, UNO) Lec 3, lab 3. Prereq: NUTR 374 and student must be 21 years of age or older.

Food and beverage management principles through catered event planning, coordination, service and evaluation; promotion; and cost and inventory.

**476/876. Restaurant and Foodservice Management Study Tour** (1-6 cr) (UNL, UNO) Prereq: NUTR 370. *Number of credits determined by tour length, assignment and sites visited.*

Learning experience for broadening the students perspective and developing a more thorough understanding of the restaurant and foodservice industry. Includes visits to hospitality facilities, national food and equipment shows, food processors, equipment manufacturers and trade exchanges.

**480/880. Tourism Resources and Development** (3 cr) (UNL, UNO) Lec 2, lab 3 (arr). Prereq: NUTR 250 or permission.

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.

**489/889. Convention and Meeting Planning** (2 cr) (UNL, UNO) Lec 1, lab 3. Prereq: NUTR 272 and MNGT 320. *Field trips to local conference and meeting centers.*

Concepts for coordinating, developing, promoting and implementing conventions, conferences and group meetings in hotels, conference centers and resorts.

**490. Professional Preparation for Careers in Dietetics** (1 cr) (UNL, UNO) Lec 1. Prereq: Senior standing. *P/N 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.

**496/896. Independent Study** (1-5 cr) (UNL) Prereq: 12 hrs in major related areas; permission. *Supervised and evaluated by departmental faculty members.* Individual projects in research, literature review, or creative production.

**497/897. Practicum in Foodservice Management** (6 cr) (UNL, UNO) Prereq: Permission of the Foodservice Management Committee. Professional experience under supervision in the restaurant and foodservice industry as planned for individual student's interests, needs, and background.

**498/898. Research Experiences** (1-5 cr) (UNL, UNO) Prereq: Senior standing and permission. Participation in an ongoing research project. Select from foods, human nutrition education, small animal, or survey research areas.

**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.

**855. Nutrition: A Focus on Life Stages** (3 cr) (UNL, UNO) Lec 3. Prereq: 3 hours undergraduate nutrition and 6 hours undergraduate natural science or permission.

**875. Practicum in Dietetics** (3-6 cr) Prereq: Admission to Dietetic Internship.

**890. Workshop** (1-3 cr)

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Department of Textiles, Clothing and Design

**Acting Chair: Professor Patricia Crews**

**Professors:** Crews, Niemeyer, Laughlin

**Associate Professors:** Tondl, Trout, Weiss, Rees

**Assistant Professors:** Daly, Hamilton

**Professor Emeritus:** Hillestad

**Senior Lecturers:** James, Quevedo

The department provides the educational framework for careers in the global textile and apparel industry. **Students have the opportunity to specialize in areas of textile and apparel design, merchandising, textile science or the joint textiles, clothing and design/journalism and mass communication program. Students in merchandising receive a minor in marketing. Textile science students may receive a minor in chemistry (see adviser).**

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 oppor-

tunity to study abroad at institutions such as the American Intercontinental University in London, for both the summer and semester study abroad programs.

**OPTIONS.** There are four options in the textiles, clothing and design department: merchandising; textile and apparel design; textile science; and textiles, clothing and design/journalism. Students interested in combining textiles, clothing and design with journalism should speak to the department chair.

### 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 resources and family sciences with emphasis in the area of textiles, clothing and design are available. Students may also pursue an MFA in art and art history with a specialization in textile/apparel design. The department offers an MS degree via Distance Education. For details see the *Graduate Studies Bulletin* or contact the Graduate Chair, Textiles, Clothing and Design Department.

### ALL UNDERGRADUATE STUDENTS IN THE TEXTILES, CLOTHING AND DESIGN DEPARTMENT

take the following:

- College and University Comprehensive Education requirements
- Human Resources and Family 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 Media option)

Hours

#### Comprehensive Education.....42-45

Library 110 (1 cr) - *to be taken first semester*.  
Intensive writing course requirement met by IS course in literature, philosophy, history, classics, religion, or sociology (3 cr)  
Computer literacy demonstrated

A. Communications .....6  
Communication - Oral (3 cr)

Must be ES course

English Composition (3 cr)  
Written - must be ES course

B. Mathematics and Statistics .....3  
MATH 101 (3 cr)  
MATH 104 (3 cr)  
MATH 106 (3 cr)

C. Human Behavior, Culture, and Social Organization .....9-10  
ECON 211 [E] (3 cr) **and** ECON 212 [E] (3 cr) **and** PSYC 181 [E] (4 cr) or SOCI 101 [E] (3 cr)

**or** ECON 210 [E] (5 cr) and PSYC 181 [E] (4 cr)

D. Science and Technology .....8-10  
Textile Science take:

CHEM 109 [E,I] or CHEM 113 [E,I] (4 cr)  
**and** CHEM 110 [E] or CHEM 114 [E] (4 cr)

*Textile/Apparel Design and Merchandising and TXCD/Journalism and Mass Media take:*

CHEM 105 [E] or CHEM 109 [E,I] or  
CHEM 113 [E,I] (4 cr)

**and** select 4-6 cr from the following: BIOS 101 &

101L [E] (4 cr); CHEM 110, 114 [E] (4 cr);

HHPT 207 [E] (4 cr); PHYS 115 [E] (3 cr),

141 [E] (5 cr), 151 [E] (4 cr)

- E. Historical Studies.....3  
History (3 cr) - *must be an ES course*
- F. Humanities.....3  
Literature, philosophy, classics or religion  
Any course from Essential Studies Area F  
recommend a 300-level IS course for Textiles & Apparel Design and Textile Science majors.
- G. Arts .....6  
AHIS 101 Art History & Criticism [E] (3 cr)  
AHIS 102 Art History & Criticism [E] (3 cr)
- H. Race, Ethnicity and Gender.....3  
TXCD 123 Clothing/Human Behavior [E,I] (3 cr)

#### Human Resources and Family Sciences Core (for all specializations).....16

- FACS 120 [E] **or** 160 [E] Human Development in the Family (3 cr)  
FACS 280 Family Science [I] (3 cr)  
HRFS 183 Seminar (2 cr)  
NUTR 253 Cultural Aspects of Food Nutrition [E,I] (3 cr) or NUTR 151  
TXCD 140 Visual Literacy Lecture (1 cr)  
TXCD 140L Visual Literacy Lab (4 cr) (FACS & NUTR take TXCD 121)

#### Textiles, Clothing and Design (Textile Science, Merchandising, and Textile/Apparel Design specializations).....42-56

*Students must select specialization (Textile and Apparel Design, Merchandising, or Textile Science) by the time textile, clothing and design introductory courses are completed.*

Introductory Courses (Years 1 & 2).....9

*To be completed by Textile Science, Merchandising, Textile/Apparel Design specialization students.*

- TXCD 113 Textile & Apparel Industry Processes (3 cr)  
TXCD 206 Textiles [E] (3 cr)  
TXCD 209 Apparel Analysis (3 cr)

**Total hours required for degree: .....130-137**

### 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.

#### Textile and Apparel Design Specialization (Years 3 & 4).....33

- TXCD 141 Visual Literacy II (1 cr)  
TXCD 141L Visual Literacy II Lab (4 cr)  
TXCD 216 Apparel Design by Flat Pattern (3 cr)  
TXCD 225 Surface Design on Textiles (3 cr)  
TXCD 312 Visual Presentations in Fashion (3 cr)  
TXCD 325 Woven & Nonwoven Textile Design (3 cr)  
TXCD 403 Apparel Design by Draping (3 cr)  
TXCD 407 History of Costume [I] (3 cr)  
TXCD 412 Apparel & Market Analysis (2 cr)  
TXCD 416L Advanced Apparel Design (2 cr)  
TXCD 428 Advanced Apparel & Textile Design (6 cr, max 3 per sem)

#### Common Completion Courses (Years 3 & 4).....13-15

- TXCD 405 Advanced Textiles (3 cr)  
TXCD 408 History of Textiles [I] (3 cr)  
TXCD 410 Socio-Psychological Aspects of Clothing [I] (3 cr)  
TXCD 413 Textiles & Apparel Merchandising [I] (3 cr)  
TXCD 498 Internship **or** 422 Professional Study Tour **or** both (1-3 cr)

#### Professional Supporting Courses.....12

- ACCT 201 Intro to Accounting (3 cr)  
MRKT 341 [E] **or** MNGT 360 [E] (3 cr)  
*Select 6 hrs in any one of the following areas:*  
art, art history **or** theatre arts and dance **or** photo journalism.

#### Free Electives .....0-5

### 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

- Merchandising Specialization (Years 3 & 4).....20**
- TXCD 312 Visual Presentations in Fashion (3 cr)  
TXCD 313 Theory & Practice in Merchandising [E] (3 cr)  
TXCD 314 Visual Merchandising (3 cr)  
TXCD 406 Textile Testing & Evaluation (3 cr)  
TXCD 407 History of Costume [I] (3 cr)  
TXCD 412 Apparel & Market Analysis (2 cr)  
*Select 3 hrs from the following:* TXCD 141, 141L, 216, 225, 325, 403, 416L (2 cr), 422, 498

#### Common Completion Courses

- (Years 3 & 4).....13-15**
- TXCD 405 Advanced Textiles (3 cr)  
TXCD 408 History of Textiles [I] (3 cr)  
TXCD 410 Socio-Psychological Aspects of Clothing [I] (3 cr)  
TXCD 413 Textiles & Apparel Merchandising [I] (3 cr)  
TXCD 498 Internship **or** 422 Professional Study Tour **or** both (1-3 cr)

#### Professional Supporting Courses.....27

- STAT 180 or EDPS 459 or ECON 215 (3 cr)  
ACCT 201 Intro to Accounting (3 cr)  
MNGT 360 Human Resources Management [E] (3 cr)  
MRKT 341 Marketing [E] (3 cr)  
MRKT 346 Marketing Channels [E,I] (3 cr)  
MRKT 347 Marketing Communications Strategy (3 cr)  
MRKT 425 Retailing Management (3 cr)  
*Select 6 hrs from:* MRKT 345 [E], 443 [E], 350, 453 [E], 458 [E,I]  
**Free Electives .....0-3**

### 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

- Textile Science Specialization (Years 3 & 4).....17**
- TXCD 406 Textile Testing & Evaluation (3 cr)  
TXCD 412 Apparel & Market Analysis (2 cr)  
TXCD 428 Textile Dyeing (3 cr)  
TXCD 499 Undergraduate Research (3 cr)  
*Select 6 hrs from the following:* TXCD 141, 141L, 216, 225, 313 [E], 325, 403, 407 [I], 409, 416L (2 cr), 422, 426, 498

1. A 2.5 cumulative GPA is required for admission to this course.

**Common Completion Courses (Years 3 & 4).. 13-15**

TXCD 405 Advanced Textiles (3 cr)  
 TXCD 408 History of Textiles [I] (3 cr)  
 TXCD 410 Socio-Psychological Aspects of Clothing [I] (3 cr)  
 TXCD 413 Textiles & Apparel Merchandising [I] (3 cr)  
 TXCD 498 Internship or 422 Professional Study Tour or both (1-3 cr)

**Professional Supporting Courses..... 19-21**

STAT 180 or EDPS 459 or ECON 215 (3 cr)  
 CHEM 116 or CHEM 221 [I] (2-4 cr)  
 CHEM 251 or CHEM 261 (3 cr)  
 CHEM 252 or CHEM 262 (3 cr)  
 CHEM 253 or CHEM 263 (1 cr) Lab  
 CHEM 254 or CHEM 264 (1 cr) Lab  
 Select 6 hrs from: business or chemistry or physics or computer science or math.

**Free Electives ..... 7-14**

Minors may also be taken in International Studies or in Women's Studies. Students should see department adviser for more information.

**4. Textiles, Clothing and Design and Journalism and Mass Media**

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 2.5 GPA is required to enroll in journalism courses.

Hours

**Textiles, Clothing and Design (Journalism and Mass Media specialization) ..... 35-41**

TXCD 113 (3 cr)  
 TXCD 206 (3 cr)  
 TXCD 312 (3 cr)  
 TXCD 314 (3 cr)  
 TXCD 405 (3 cr)  
 TXCD 407 (3 cr)  
 TXCD 408 (3 cr)  
 TXCD 410 (3 cr)  
 TXCD 413 (3 cr)  
 TXCD 498 or 422F or both (2-6 cr)  
 Select 6-8 hrs from the following: TXCD 216, 225, 313, 325, 403, 405, 409, 428.

**Please select one of the following Journalism/Mass Media specializations:****1. Journalism/Advertising specialization ..... 35**

ADVT 281 (3 cr)  
 ADVT 283 (3 cr)  
 ADVT 333 (3 cr)  
 ADVT 357 (3 cr)  
 ADVT 460 (3 cr)  
 JOUR 485 (3 cr)  
 JOUR 486 (3 cr)  
 JOUR 487 (3 cr)  
 JOUR 489 (4 cr)

Select 6 hrs of electives in journalism.

**Free electives..... 0-2**

Total 130-137

**2. Journalism/Broadcasting specialization.....35**

BRDC 226 (3 cr)  
 BRDC 227 (3 cr)  
 BRDC 228 (3 cr)  
 BRDC 369 (3 cr)  
 BRDC 370 (3 cr)  
 BRDC 372 (3 cr)  
 JOUR 485 (3 cr)  
 JOUR 486 (3 cr)  
 JOUR 487 (3 cr)

Select 6 hrs of electives in journalism-3 hrs must be from broadcasting

**Free electives..... 0-2**

Total 130-137

**3. Journalism/News-Editorial specialization..... 32**

NEWS 217 (3 cr)  
 NEWS 280 (3 cr)  
 NEWS 282 (3 cr)  
 NEWS 284 (3 cr)  
 NEWS 371 (4 cr)  
 NEWS 381 (4 cr)  
 JOUR 485 (3 cr)  
 JOUR 486 (3 cr)  
 JOUR 487 (3 cr)

Select 3 hrs of electives in journalism.

**Free Electives ..... 0-5**

Total 130-134

**Courses of Instruction (TXCD)****113. Textile and Apparel Industry Processes (3 cr) (UNL, UNO) Lec 3. Credit towards the degree can be earned in only one of: TXCD 113 or 213.**

Textile and apparel industry processes, with emphasis on social, cultural and economic influences.

**[ES][IS] 121. Design Essentials (3 cr) (UNL, UNO) 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.

**[ES][IS] 123. Clothing and Human Behavior (3 cr) (UNL, UNO) Lec 3.**

Analysis of social, cultural, aesthetic, and economic influences on clothing and human behavior.

**[ES] 123H. Honors: Clothing and Human Behavior (3 cr) (UNL, UNO) Lec 3. Prereq: Good standing in the University Honors Program or by invitation.**

Analysis of social, cultural, aesthetic, and economic influences on clothing and human behavior.

**140. Visual Literacy I Lecture (ARCH, AHIS, IDES 140) (1 cr) Prereq: Parallel TXCD 140L.**

For course description, see AHIS 140.

**140L. Visual Literacy I Lab (ARCH, AHIS, IDES 140L) (4 cr) Prereq: Parallel TXCD 140.**

For course description, see AHIS 140L.

**141. Visual Literacy II Lecture (ARCH, AHIS, IDES 141) (1 cr) Prereq: TXCD 140 and 140L; parallel TXCD 141L.**

For course description, see AHIS 141L.

**141L. Visual Literacy II Lab (ARCH, AHIS, IDES 141L) (4 cr) Prereq: TXCD 140 and 140L; parallel TXCD 141L.**

For course description, see AHIS 141L.

**206. Textiles (3 cr) (UNL, UNO) Lec 2, lab 2. Prereq: Sophomore standing.**

Fibers, yarns, fabric construction, and finishes as they affect use and care.

**209. Apparel Analysis (3 cr) (UNL, UNO) Lec 3. Prereq: TXCD 206 or parallel.**

Analysis and evaluation of apparel structure with emphasis on design, style, and construction variations as related to quality, price, and performance.

**216. Apparel Design by Flat Pattern (3 cr) (UNL) Lec 1, studio 4. Prereq: TXCD 209.**

Creative experience in apparel design through the use of flat pattern methods.

**[ES] 225. Surface Design on Textiles (3 cr) (UNL, UNO) Lec 1, stu 4. Prereq: TXCD 140 and 140L.**

Introduction to surface design with creative applications of printing and dyeing techniques on fabric.

**312. Visual Presentations in Fashion (3 cr) (UNL) Lec 3. Prereq: 3 hrs of statistics.**

Investigation of the role and responsibilities of apparel/home furnishings merchandisers in a retail operation in addition to fundamentals of merchandise mathematics and its application to computer technology.

**[ES] 313. Theory and Practices in Merchandising (3 cr) (UNL) Lec 3. Prereq: 3 hrs of statistics.**

Investigation of the role and responsibilities of apparel/home furnishings merchandisers in a retail operation in addition to fundamentals of merchandise mathematics and its application to computer technology.

**314. Visual Merchandising (3 cr) (UNL) Lec 2, stu 2.**

Prereq: TXCD 140 and 140L, or ARCH 210 or permission. Merchandise presentation designed to convey both image and merchandise to a target customer. Artistic and marketing functions of the retail environment shall be subject of analysis.

**[ES][IS] 325. Woven and Nonwoven Textile Design (3 cr) (UNL) Lec 1, stu 4. Prereq: Junior standing or permission. Creative application of woven and non-loom textile construction techniques.****399. Independent Study (1-5 cr) (UNL, UNO)**

Readings in current literature and individual problems.

**403/803. Apparel Design by Draping<sup>2</sup> (3 cr, max 6) (UNL) Studio 6. Prereq: TXCD 209 and 216.**

Creative experience in designing apparel through the use of draping techniques.

**405/805. Advanced Textiles (3 cr) (UNL) 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<sup>2</sup> (3 cr) (UNL) Lec 1, lab 2. Prereq: TXCD 405/805.**

Physical and chemical analysis of textiles using standard testing procedures including the calculation, interpretation, and evaluation of test results.

**[ES][IS] 407/807. History of Costume (3 cr) (UNL) 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.

**[ES][IS] 408/808. History of Textiles (3 cr) (UNL) 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.

**409/809. Textile Conservation<sup>2</sup> (3 cr per sem, max 6) (UNL) Lec 2, lab 2. Prereq: TXCD 206 or permission.**

Ethical considerations, principles and methods of textile conservation, including repair, cleaning, storage, and exhibition considerations.

**[ES][IS] 410/810. Socio-psychological Aspects of Clothing (3 cr) (UNL) Lec 3. Prereq: 9 hrs social sciences and 9 hrs textiles, clothing and design; or permission.**

Theory and research findings pertaining to the social and psychological aspects of clothing and appearance in relation to the self-interpersonal behavior and collective behavior.

**412/812. Apparel and Market Analysis<sup>2</sup> (2 cr) (UNL) Lec. Prereq: TXCD 312.**

Analysis of apparel and production processes with emphasis on market strategies, costing and product development via computer-aided design.

**[IS] 413/813. Textile and Apparel Merchandising (3 cr) (UNL) Lec 3. Prereq: ECON 210, or 211 and 212; and TXCD 113.**

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.

**416L/816L. Advanced Apparel Design I<sup>2</sup> (2 cr, max 4 hrs) (UNL) Studio. Prereq: TXCD 209 and 216, or permission.**

Creative experience in designing apparel with emphasis on computer-aided design pattern making, and designing for specific markets.

**418/818. History of Quilts (3 cr) Prereq: Permission. Influence of social, political, artistic and technological developments on quilt making traditions worldwide.****422/822. Professional Study Tour-International or Domestic (1-6 cr, max 12) (UNL) Prereq: 12 hrs textiles, clothing and design or permission. Number of credits determined by the time spent, assignment, and sites visited.**

Expand students' experience and knowledge of 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.

**426. Advanced Apparel and Textile Design** (3 cr, max 6) (UNL) Studio 6. Prereq: TXCD 216 and 225; TXCD 325 or 403/803.

Advanced work in the creation of textiles and apparel as art forms. Design conceptualization, expression, media, technique, and presentation.

**428/828. Textile Dyeing**<sup>2</sup> (3 cr) (UNL) Lec 2, lab 3. Prereq: TXCD 206 and 8 hrs chemistry.

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.

**490/890. Workshop/Seminar** (1-3 cr, max 9) (UNL) 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)
- C. **Design** (1-3 cr)

**496/896. Independent Study** (1-5 cr per sem, max 10) (UNL) 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)
- C. **Design** (1-5 cr)

**498. Internship** (2-6 cr) (UNL) Prereq: Permission and 79 hrs completed toward degree; Merchandising Option-TXCD 313. *P/N only.*

Supervised individual professional experience with a qualified cooperative practicing professional. Students required to apply for the experience with the department and with the employer.

**499. Undergraduate Research** (1-6 cr I, II, III) Prereq: Senior standing.

**\*811. Textiles, Clothing and Design Problems** (1-6 cr each per sem, max 12) (UNL) Prereq: 12 hrs textiles, clothing and design and permission.

- A. **Textiles**
- B. **Clothing**
- C. **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.

**823. Advanced Design in Multi Media**<sup>2</sup> (3 cr, max 6) (UNL) Studio 6. Prereq: TXCD 209, 216, 312, and 803 or 816L; or permission.

**\*824. Rendering Textiles and Apparel** (3 cr, max 6) (UNL) Studio. Prereq: Permission.

**825. Advanced Fiber Art**<sup>2</sup> (3 cr, max 2 sem) (UNL) Stu 6. Prereq: TXCD 225 and 325, or permission.

**\*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** (2 cr) (UNO)

**\*874. Theory Development** (1 cr) (UNL) Lec 1.

**\*875. Research Methods** (3 cr) (UNL) Lec 3.

**\*899. Masters Thesis** (6-10 cr)

\*Open only to graduate students

Refer to the *Graduate Bulletin* for 900-level courses.



## Rick Alloway

"Teaching at the University is a chance for me to do the two things that I enjoy most in life — radio and broadcasting. My job is intensely related to student contact — I am the general manager of the University radio station KRNU-FM where 85 students are on the air each week, I teach one or two broadcasting classes a semester, and I am the chief adviser for broadcasting students. Our department is based on contact with students; and because of that individual attention, we attract some of the nation's best journalism students.

"The broadcasting industry is changing rapidly and dramatically. There aren't as many jobs in radio as there were ten years ago, yet, we didn't have the Internet, web design, video streaming, or the multiplicity of cable and satellite TV channels. Someone has to provide content for these new technologies. We keep shifting our teaching and the manner in which broadcasting is taught. We are computer based, KRNU is on-line, and our web page has audio streaming. We know from experience that the only way to teach broadcasting skills and how they fit together under pressure is to do it as an actual process."

*Rick Alloway is the general manager of KRNU-FM and a broadcasting lecturer in the College of Journalism and Mass Communications. He is also the voice of the NRoll telephone registration system.*



# College of Journalism and Mass Communications

## About the College

For additional information or questions, contact:

**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

**Nancy Mitchell**, Ph.D., Associate Professor and Head of Advertising, 472-5647

**Jerry Renaud**, M.A., Associate Professor and Head of Broadcasting, 472-3056

**Daryl Frazell**, M.S., Associate Professor and Head of News-Editorial, 472-3047

## 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 in 1917. 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.

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: writing, editing and design in print and broadcast 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 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 departments: advertising, broadcasting and news-editorial. An MA in journalism complements this emphasis by building on a well-established and nationally recognized undergraduate curriculum.

## Administrative Structure

The college includes three departments in which students may major: advertising, broadcasting and news-editorial. Each department is administered by a head who reports to the dean of the College.

## Undergraduate Departments

### Advertising

The advertising department, the largest in the college with approximately 450 majors, prepares students for careers in a wide variety of communication-related areas. Recent graduates have been placed in more than 20 states in such diverse advertising careers as retail and corporate advertising and marketing, media sales, brand management, media planning, account management, research, public relations, media relations, special event planning, 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 department offers courses in copywriting, layout, media planning, graphics, campaign development, research, management, and public relations. The curriculum is designed to emphasize strategy, planning and implementation in creative problem solving.

Students who major in advertising can also select an emphasis in public relations. Those wanting to apply for admittance to the public relations emphasis should see an adviser for details. Students who are admitted to the public relations emphasis must complete concentrations in marketing and communication studies.

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 public relations classes, students often work with actual clients who present real-life problems. This experience gives students a professional perspective to 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 their many professional contacts both locally and nationwide, actively helps place students in jobs within the state and throughout the country. Students interested in majoring in advertising should contact the department office, 206 Avery Hall.

### Broadcasting

The broadcasting department offers courses leading to a wide variety of careers in the telecommunications industry. Building on a solid base of instruction in radio and television broadcasting, the department has broadened its curriculum in response to advancing technology and emerging new electronic media. The department offers courses to approximately 300

majors 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 in the department are designed to develop both a comprehensive understanding of theoretical principles and professional skills. Most courses involve extensive hands-on laboratory work in addition to classroom lectures and discussions. Students who major in broadcasting can also select an emphasis in public relations. Those wanting to apply for admittance to the public relations emphasis must complete concentrations in marketing and communication studies.

The department operates KRU, a professionally managed FM radio station, as an integral part of the instructional program. With studios in Avery Hall, KRU operates year-round and serves a potential audience of almost 200,000 persons. Students work on-air at KRU as a part of their laboratory experience in a number of required and elective courses. Student-produced programs aired on KRU have won many awards in competition with other student groups as well as with commercial stations. Students also produce television newscasts which are distributed throughout Lincoln via cable television. In addition to the Avery Hall facilities, the department conducts courses in the studios of KUON-TV, the flagship station of the Nebraska Educational Television Network. In addition, the department operates two television studios in Avery Hall for news and smaller productions and a studio/classroom for distance education classes on the satellite.

The department enjoys an excellent rapport with the industry, and faculty 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 International Radio and Television Society/Alpha Epsilon Rho, the Society of Professional Journalists, the National Broadcasting Society, the Radio-Television News Directors Association and other available avenues.

The department assists 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 department of broadcasting majors. Graduates of the department 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 department office, 206 Avery Hall.

## News-Editorial Department

The news-editorial department offers courses in print journalism, the discipline on which the college was first established. About 250 majors are working toward journalism careers in news-editorial. All faculty members have extensive professional experience, which is coupled with their commitment to teach students the skills they will need to succeed.

It is the boast of the department that nearly all recent graduates who have wanted jobs on newspapers have found them. While the newspaper is the principal employer of news-editorial students, graduates also go to work for magazines and other print media.

The department readies its students for the job market by combining class work with actual experience. During the second half of each semester, students in photography, beginning and advanced editing, advanced reporting and advanced graphics join in putting out a weekly laboratory newspaper. As a summer school experience, students travel to a selected town to help put out editions of a weekly paper.

Such hands-on experience prepares students for summer internships on newspapers and other publications. Most students in the department have at least one such work experience before they graduate. In one typical summer, two students were in New York working on magazines, many were working on Nebraska newspapers, two were on the staff at the *Chicago Tribune*, some were working in public relations offices of major firms and others were on newspapers across the country from New Haven, Connecticut, to Salem, Oregon. Advanced students, such as those in depth reporting and magazine writing, see their work published in special department publications. In terms of national recognition, the department frequently finishes among the top 10 in the national Hearst writing competition.

Students interested in a news-editorial major should contact the department office, 206 Avery 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. Students can also earn a masters degree in journalism with an emphasis in advertising, marketing and communication studies or an emphasis in sports communication. 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, 206 Avery Hall, <jmcgrad@unl.edu>.

## Faculty

Quality undergraduate teaching is a prime concern 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

bring a wealth of experience in the communications professions: advertising and public relations faculty as managers, writers, and designers for advertising and public relations agencies, newspapers and broadcasting outlets; broadcast faculty as writers, producers and on-air talent for radio and television; news-editorial faculty as reporters, editors and photographers at newspapers and magazines.

## Scholarships

Each year the college awards about 80 scholarships worth more than \$48,000 total. Most scholarships go to upperclassmen, although a limited number are awarded to freshmen.

College scholarship applications for upperclassmen are available in the dean's office in early December. They must be completed and returned to the dean's office by February 1. Awards are made in late April.

Entering freshmen must apply through the university's Admissions Office, 12 Canfield Administration Building. 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  
206 Avery Hall  
PO Box 880127  
Lincoln, NE 68588-0127

## Academic Advising

The College prides itself on careful, personal academic advising for all its majors. 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, students are encouraged to meet with the College's academic checker during their junior year to assure that they are pursuing a course of study that meets the college requirements.

## Degree Requirement Check

As soon as students have junior standing (53 credit hours), they should make an appointment with the College academic credentials checker for a review of their progress toward a degree.

By the time students complete 88 semester hours, they should apply for a "senior check" in the Office of Registration and Records, 107 Canfield Administration Building. This check will inform students about the requirements that remain to be fulfilled for their degree program.

## Honors and Awards

Outstanding students are honored each spring during an honors convocation. The College recognizes students whose cumulative grade point averages are in the top 10 percent of

their respective classes, students who hold scholarships and students who have earned special awards through their departments.

In addition, the College distributes a semester dean's list. To be included on the semester dean's list, a student must have earned a 3.5 GPA or better during the current semester.

**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 Department of Broadcasting office, 206 Avery 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 Graduation with Distinction 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 Graduation with Distinction 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 Graduation with

Distinction 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 3.5 GPA) of the college for the preceding 12-month period and by recommendation of the college's Graduation with Distinction 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 Graduation with Distinction 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 and department chairs. These students must register for JOUR 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 faculty committee must make a recommendation to the Graduation with Distinction Committee on the thesis work.

During the semester before the student intends to graduate, she or he should visit the Dean's Office, 206 Avery 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 that office.

## Student Organizations

### International Radio and Television Society/Alpha Epsilon Rho

The IRTS/AERho is a student organization based in the Department of Broadcasting. Membership is open to all graduates and undergraduates 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 the Department of Broadcasting.

### Nebraska Press Women

The student chapter, affiliated with both the state NPW and the National Federation of Press Women, works closely with the state professional association to advance careers for women in communications, protect First Amendment rights and responsibilities, influence communications standards and public policy, recognize distinguished professional achievements and promote diversity throughout the communications professions.

Student members may enter the state and national contest and attend state and national conventions. Membership is open to both women and men in all three college departments as well as to students from other colleges who plan to pursue careers in communications.

### Public Relations Club

The University of Nebraska-Lincoln Public Relations Club is affiliated with the Public Relations Student Society of America (PRSSA), and is open to anyone on campus interested in learning more about a career in the field of public relations. PR Club goals include helping members learn about the practice of public relations, carrying out public relations activities in order to help build portfolios, and connecting with professionals in the industry. Guest speakers, field trips and projects are all part of PR Club activities. Members are encouraged to attend meetings and functions of the professional affiliate, Public Relations Society of America. For more information, contact the Department of Advertising, 206 Avery Hall.

### The Society of Professional Journalists

The Campus Chapter of the Society of Professional Journalists offers students in the broadcasting and news-editorial departments opportunities for both professional and social growth. The chapter sponsors speakers and programs to provide a forum for discussion of journalistic issues. It also holds numerous social events and outings during the year and creates opportunities for students to meet professionals.

The organization is open to all students pursuing careers in news, either print or broadcast. The names of the faculty advisers may be obtained in the Office of the Dean, 206 Avery Hall.

### 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 and interview workshops. For more information, contact the Department of Advertising, 206 Avery Hall.

### 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 and informs students on 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 nine members, three from each department, and a graduate student when possible. A student wishing to serve on the Student Advisory Board should contact the dean, 206 Avery Hall, or the chair of his or her respective departmental major.

## 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 admittance 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 5 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. 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 group 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. A student must have a GPA of at least 2.5 to enroll in College of Journalism and Mass Communications classes.

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 (Agricultural Sciences and Natural Resources, Human Resources and Family Sciences, marketing, and Teachers). Courses which are exceptions to this policy include the following College of Journalism and Mass Communications courses: BRDC 226; NEWS 180, 280 and 282; ADVT 250 and 281; JGEN 123 and 321. 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 department chair.

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 at the Dean's Office, 206 Avery Hall, for 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 D grades from other campuses or from other colleges at UNL. No D grades will count toward a major 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. These courses must include 460 and 489 in advertising, 370 and 372 in broadcasting and 371 and 381 in news-editorial. Students from ACEJMC-accredited programs may request equivalency reviews of the required courses at those schools. Degree candidates must accumulate 90 credit hours of non-journalism classes, 65 of those in disciplines listed as liberal arts courses.

Credit for courses taken at foreign universities and colleges will be transferred only after evaluation by the appropriate department. This evaluation may include examination of the student over subject matter studied at the foreign institution.

Students graduating under the 1993-94 bulletin or subsequent bulletins may not use transferred credits in courses with a grade less than C to fulfill concentration requirements.

Normally, credit is not given for pre-university work. In some instances, it may be possible to receive credit through satisfactory examination.

## Readmission

Students who left the University not in good standing will be readmitted under the current bulletin.

Students who left the university in good standing 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 other bulletin published while they are enrolled in the College provided the bulletin selected was published no more than 10 years prior to the date of graduation.
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. 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 student's department chair 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 department chair if the original course is no longer offered.

## College Academic Policies

### Classification of Students

All students must have a cumulative grade point average of at least 2.5 to take courses in the College of Journalism and Mass Communications. (See noted exceptions in the *Schedule of Classes*, and in bulletin section "Admission to the College" on page 305.

### 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. The N (no pass) grade does not contribute to a student's GPA.
2. P (pass) is interpreted to mean a grade of C or better.
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 only on a P/N 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 P/N.
7. Students may change to P/N 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 P/N. This date coincides with the final date to drop a course without the instructor's approval. This change to P/N requires the drop/add form be filed with the Office of Registration and Records, 19 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), B+ (3.5), B (3.0), C+ (2.5), C (2.0), D+ (1.5), D (1.0), and F (0). Grades of W (withdrawal) and I (incomplete) may also be given. 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. However, to enroll in College of Journalism and Mass Communications courses the student must attain at least a C+ (2.5) total grade point average.

**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 grading 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 the chair of the department.

3. If the foregoing steps have not resulted in a solution, arrange, through the chair, to take the problem to the departmental grading appeals committee. This step involves presenting the problem in writing.
4. If an appeal from the departmental 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.

## Bachelor of Journalism Degree

### Requirements

A minimum of 125 semester hours of credit is required for graduation from the College of Journalism and Mass Communications. Any student admitted to the College after May, 1987, must have a 2.0 GPA. The student must have at least a 2.5 GPA by the first day of each term to maintain registration in the College of Journalism and Mass Communications courses. (See exceptions listed in the Schedule of Classes). The same rule applies to non-journalism students having permission to enroll in College of Journalism and Mass Communications courses with the exception of JGEN 123 and 321. All journalism courses are "grade only" unless noted otherwise. No "D" grades count toward the major, a minor, or a concentration. Students who enter the college with fewer than two units of a single foreign language from high school are required to take 130 semester hours as a minimum for the bachelor of journalism degree. Thirty of the 125 (or 130) semester hours of credit must be in courses numbered above 299.

Students who first enter the College of Journalism and Mass Communications at UNL under the 2000 *Undergraduate Bulletin* must fulfill the requirements stated in this bulletin or in any other bulletin that is published while they are enrolled in the college provided the bulletin selected was published no more than 10 years prior to the date 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.

### Advising

**All students are strongly encouraged to meet with their assigned advisers before registering for courses and before adding or dropping courses following initial registration. However, students are responsible for identifying and enrolling in courses that will lead to completion of all published degree requirements.**

### Course Exclusions and Restrictions

Any course on the University's list of approved Essential Studies [ES] or Integrative Studies [IS] courses at the time the student takes the course will count toward the 125 (or 130) semester hours required for graduation, **but only those courses that are liberal arts in content (see Group I) will count toward the College's group requirements.** As a result, the most efficient manner to complete both the general education and college group requirements is to select courses that are on the ES and IS lists and are designated as liberal arts in content. Additional courses not on either the ES or IS list may also count toward the total

required for graduation. However, courses from the following areas shall not count toward graduation **unless the courses appear on the ES or IS lists:**

- Athletic Coaching (ATHC)
- Athletic Training (ATHT)
- Health Education (HLTH), first aid or emergency healthcare
- Agricultural Leadership, Education and Communication (ALEC)
- Vocational and Adult Education (VAED), business education or vocational courses
- student assistantships, teaching assistantships, proctoring, or grading;
- internships of a journalistic nature taken through any university unit or department, except that a student majoring in broadcasting may receive up to 3 semester hours of credit for an internship taken with special permission;
- any independent study course, experiential course or practicum outside the College of Journalism and Mass Communications undertaken without the prior written approval of the chair of the student's major department;
- driver training education;
- industrial arts (including courses concerned primarily with manual skills, tools, machines, or industrial processes and design);
- orientation;
- JGEN 123, 321;
- math courses below 100 and MATH 100A;
- CSCE 137, word processing and graphics;
- EDPS 237
- MNGT 198D

A maximum of 10 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 physical education (limited to 2 credits per semester) may count toward the degree.

A maximum of 4 hours of applied study in the fine arts is permitted. This limitation does not apply to students completing, with the approval of their faculty advisers, a recognized minor in a performance or studio area in the Hixson-Lied College of Fine and Performing Arts.

### 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. Correspondence courses do not count toward residence. A maximum of 30 hours of correspondence courses and summer reading courses at UNL may be applied toward a degree from the College of Journalism and Mass Communications.

### 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 in the Office of Registration and Records, 107 Canfield Administration Building. Announcements about deadline dates are published and posted on bulletin boards around campus.

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.

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 and department heads. 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 the executive 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 90 semester hours of credit be completed in courses outside the College of Journalism and Mass Communications. Sixty-five (65) of the 90 hours must be taken in subjects listed as traditional liberal arts and sciences by the ACEJMC. See Group I below for a list of the areas currently considered liberal arts. Students graduating with 125 hours can take no more than 35 hours in the College of Journalism and Mass Communications. Students needing 130 hours to graduate can take no more than 40 hours in College of Journalism and Mass Communication courses. Students wanting to take more

than 40 or 35 hours in the College should note that any hours over the 40 or 35 hour limit will be in addition to the hours required to graduate.

## Group Requirements for the Bachelor of Journalism Degree

Students must satisfy both the University's Comprehensive Education requirements and the College of Journalism and Mass Communications' group requirements. The Comprehensive Education Program requires students to complete 27 hours from the list of Essential Studies courses and 10 Integrative Studies courses. For these requirements and the courses that satisfy them, see "Comprehensive Education Program" on page 13 of this bulletin.

Group requirements provide a good introduction to the knowledge upon which our civilization is founded. The requirements are divided into eleven major classifications known as Groups A, B, C, D, E, F, G, H, I, J and K. **To satisfy groups A through I, students must select courses from the areas identified in Group I as being among the traditional liberal arts.** Courses used to fulfill a requirement in one category cannot be used in another category except where an exception is stated in the category description.

Students who are candidates for Phi Beta Kappa must satisfy the general education requirements and the requirements of a departmental major established by the College of Arts and Sciences.

**Courses offered through the College of Journalism and Mass Communication (identified in class listings as ADVT, BRDC, JOUR, JGEN, or NEWS) may not count toward satisfying any group requirement.**

In addition to the group requirements described below, all students must complete LIBR 110 before beginning their sophomore year.

Students must complete any admission deficiencies during the first 30 hours (60 hours for foreign language) of enrollment at UNL or first calendar year of continuous enrollment at UNL, whichever takes longer. Students are encouraged to enroll in natural science courses (with lab) and foreign language courses during the freshman year.

In the descriptions below, one unit is equal to one year of high school credit.

### Group A. Communication (6 hours)

Students must complete one English (ENGL) composition or writing course numbered 199 or below and one English writing course numbered above 199. (English department writing courses at the 200 level and above all have a middle digit of 5.)

When a student whose native language is not English enters the University of Nebraska-Lincoln seeking a degree in journalism and mass communications, he or she must report to the dean's office to provide evidence of ability or preparation for speaking or writing for English language audiences. See the College of Arts and Sciences portion of this bulletin for appropriate courses in English for foreign students.

### Group B. Mathematics or Statistics (3 hours)

Students entering the University of Nebraska-Lincoln in the fall 1995 or later must complete at least 3 semester hours of mathematics or statistics. (See "Essential Studies Program List" on page 14 for specific course titles.)

Beginning in the fall of 1997, four units of high school math are UNL entrance requirements.

Students with high school deficiencies may satisfy the deficiency as follows:

1. A geometry deficiency may be met by completing MATH 85X and MATH 86X. These courses are offered through the Division of Continuing Studies. Neither of these options count for college credit.
2. A deficiency in the second year of high school algebra may be met by taking MATH 95C (Division of Continuing Studies); or by taking MATH 100A. No credit of any kind is given for MATH 95C. University credit is given for MATH 100A, but no credit is given toward the bachelor of journalism degree.
3. A deficiency of the first year of algebra can be removed by taking two high school Algebra I courses by correspondence from the UNL Division of Continuing Studies (not for college credit).
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.

### Group C. Human Behavior, Culture, and Social Organization (12 hours)

Among the courses that satisfy this requirement are those in anthropology, communications studies (non-performance), economics (except quantitative economics or econometrics), geography (except physical geography), psychology, political science, and sociology. Of the 12 hours, at least 3 must be taken in the political science (POLS) department and at least 5 must be taken in the economics department (ECON). **NOTE:** Those students completing ECON 210 (5 cr hrs) at UNL only need a total of 11 hours to fulfill this requirement.

### Group D. Science or Technology (6-7 hours)

Courses satisfying this requirement may come from astronomy, biological sciences (except bioethics or biopsychology), chemistry, computer science (not word processing or graphic design), physical geography, geology and physics. At least one Science or Technology course must include a laboratory.

### Group E. Historical Studies (9 hours)

Of the 9 hours, at least 6 must be taken in the history department (HIST). (See "Essential Studies Program List" on page 14 for specific course titles.)

### Group F. Humanities (9 hours)

Humanities courses include those in the classics (except those in classic languages, such as Greek and Latin), English literature, literature in the modern languages and philosophy. Of the 9 hours, no more than 6 may be taken in any one department.

### Group G. Arts (3 hours)

Students must take at least 3 hours from courses that are liberal arts in content (Group I) and are listed under the Arts category on the comprehensive education ES list. Arts courses that are designated as liberal arts are those that are designed for the study of, rather than practice of, that art. These include art history, dance history, music history and theater history. (See "Essential Studies Program List" on page 14 for specific course titles.)

### Group H. Race, Ethnicity and Gender (6 hours)

The student must complete 6 hours from courses intended to provide 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. (See "Essential Studies Program List" on page 14 for specific course titles.)

Courses taken to meet the Group H requirement may also count toward meeting requirements in Groups C, E, F, G, I and K.

### Group I. Liberal Arts (65 hours)

Students must accumulate at least 65 semester hours in the traditional liberal arts as defined by the Accrediting Council on Education in Journalism and Mass Communication. The current list of liberal arts areas comprises anthropology (ANTH), art history (AHIS), communications studies (COMM) (non-performance), dance history (DANC), economics (ECON), English composition and literature (ENGL) or classics (CLAS), foreign language (modern or classical) (MODL), geography (GEOG), history (HIST), mathematics (MATH), music history or theory (MUSC), philosophy (PHIL), political science (POLS), psychology (PSYC), sociology (SOCI), theater history (THEA), and the natural sciences. Natural science courses that count toward the liberal arts requirement are those listed in the bulletin under the headings astronomy (ASTR), biological chemistry (BIOC), biological sciences (BIOS), chemistry (CHEM), computer science (CSCE), econometrics or quantitative economics (ECON), physical geography (GEOG), geology (GEOL), and physics (PHYS). Courses taken from any of these areas for fulfillment of the requirements for Groups A-H and K also count toward fulfillment of this group requirement. See note in Group J regarding foreign language hours.

### Group J. Foreign Language (0-6 hours)

Up to 6 hours of 200-level composition and conversation foreign language courses taken to satisfy Group J requirements may count toward Group I. Such courses will not satisfy the Group K requirements. Courses numbered 300 or above can count in Group K.

A student who enters with 2 units of the same foreign language in high school may count 100-level conversation and composition courses toward Group I **only** if those beginning courses are completed in another foreign language than the one taken in high school.

The language requirement serves to help students gain a working familiarity with a language and a culture other than their own. The requirement will be fulfilled by completion of the third and fourth levels of courses in a single foreign language either in the Department of Modern Languages and Literatures or the Department of Classics.

Students who have completed the fourth-year level of one foreign language in high school are exempt from the Group J requirements. Students who have completed three years of one foreign language in high school may fulfill the language requirement by taking a fourth semester course.

Students who enter UNL having completed fewer than 2 years of a single foreign language in high school will need 130 hours to graduate.

Instruction is presently available in Chinese, Czech, French, German, Greek, Italian, Japanese, Latin, Portuguese, Russian and Spanish. Course sequence is usually 101, 102, 201 and 202. Block courses combining 101 and 102 are offered in French, German and Spanish during the regular academic year and in Portuguese during the fall semester.

Courses 201 and 202 in French, German and Spanish can be taken in a block in the summer language house and during the regular academic year.

Interim language courses in the country of the language are also periodically available and offer credit for 202.

#### Options for completion of language requirement:

1. Regular sequence: 101, 102, 201, 202 (5, 5, 3, 3 hours for a total of 16)
2. Regular sequence (first year) with intensive second-year block: 101, 102, 201-202, increasingly available on a regular basis from winter 1993 on. (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 16-hour 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 languages 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) with permission of the chair of the Department of Modern Languages and Literatures to enroll in 202.

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. American students 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.

#### Group K. Additional Concentrations

College of Journalism and Mass Communications majors must complete the requirements for three areas of concentration of at least 12 hours outside the college or one 24- and one 12-hour concentration. One of these outside concentrations must be in one of the departments identified in Group I as one of the traditional liberal arts. No more than 6 hours will be allowed at the 100 level for any one concentration. No course may simultaneously count toward two Group K concentrations. Each concentration should be taken from one department or a specified interdisciplinary minor. Courses completed for other group requirements (except courses listed in Group J) may count toward the Group K requirement. In no case will College of Journalism and Mass Communications courses be counted toward a concentration. No D grades will count toward an area of concentration.

Students may substitute a designated Plan A or Plan B minor from an outside department for a concentration.

## Programs and Departments

### Journalism Requirements

**Any student admitted to the College of Journalism and Mass Communications after May, 1987, must have a 2.0 GPA. The student must have at least sophomore standing and a minimum 2.5 GPA by the first day of each term to maintain registration in College of Journalism and Mass Communications courses. A student whose GPA falls below 2.5 by the first day of each term must carry out the procedures to drop College of Journalism and Mass Communications courses by the end of the add period to ensure a full refund. If a student fails to drop the journalism courses by that date, the Dean of the College of Journalism and Mass Communications reserves the right to administratively cancel the student's registration in the college's courses with the understanding that there would be some tuition charge.**

**The same rule applies to non-journalism students having permission to enroll in College of Journalism and Mass Communications courses. All journalism courses are "grade only" unless otherwise noted. No D grades 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 major in one of three undergraduate departments—advertising, broadcasting, or news-editorial. Each of these departments requires professional courses for students. Additionally, all students must take the three core courses—Communications Law, History of the Mass Media, and Mass Media and Society.

Advertising and broadcasting majors can elect to complete a public relations emphasis in advertising. Advertising majors selecting this option must complete all courses in the advertising major (except ADVT 357 and 460), and those courses designated for a public relations emphasis. Broadcasting majors must complete all classes in the broadcasting major (except BRDC 370 and 372), and those courses designated for a public relations emphasis in broadcasting. In addition, students in both departments must complete concentrations in both communications studies and marketing. Students interested in this emphasis must apply for admission through their adviser.

Students can major in two departments in the College of Journalism and Mass Communications by completing all requirements for each departmental major and the college group requirements. Students exercising this option must declare a home department within the College of Journalism and Mass Communications. Students also may choose to dual matriculate and meet the requirements for two degrees, one from the College of Journalism and Mass Communication and the second from another college within UNL.

In addition to academic eligibility (2.5 or higher GPA), applicants who speak English as a second language and plan to major in advertising or broadcasting must present the following documentation for English proficiency: *broadcasting*—TOEFL score of 600 or higher **and** TSE (Test of Spoken English) of 240 or higher; *advertising*—TOEFL score of 550 or higher (no TSE requirement for advertising).

### Courses of Instruction

#### Core (JOUR)

**445/845. Cyberspace and Mass Media from the Grassroots** (3 cr) Prereq: Senior in the College of Journalism and Mass Communications or graduate standing or permission. *Students use the college web site for laboratory experience.* Issues arising from the emergence of cyberspace, the trend toward globalization of mass media. Implications for journalism.

**[ES][IS] 485/885. History of Mass Media** (3 cr) Prereq: Junior standing; major in advertising, broadcasting, or news editorial; or permission. *Required of all students seeking a degree through the College of Journalism and Mass Communications.* Development of American journalism and mass communications from the colonial period to the present.

**[ES][IS] 486/886. Communications Law** (3 cr) Prereq: Major in advertising, broadcasting, or news-editorial, and junior standing or permission. *Required of all students seeking a degree through the College of Journalism and Mass Communications.* Legal rights and responsibilities of the American media.

**[ES][IS] 487/887. Mass Media and Society** (3 cr) Prereq: Major in advertising, broadcasting, or news-editorial, and senior standing or permission. *Required of all students seeking a degree through the College of Journalism and Mass Communications.* Interrelationships between the American mass media and the society they serve with an emphasis on the evolution of audience needs and expectations in a changing society.

**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)

**[ES][IS] 123. The Media Today** (3 cr) *Open to non-majors only.* Provides a basic understanding of the media and develops better informed media consumers in the 21st century. Reflects changes that advertising, broadcasting and print journalists face during the coming decade. Starting point for students to understand: 1) diversity of a community; 2) practical visions of the future; 3) interactive on-line news and information services; 4) thinking ethically; and 5) similarities and differences in print and broadcasting news and advertising content.

**[ES][IS] 189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. A *University Honors Seminar 189H is required of all students in the University Honors Program. JGEN 189H is open to University Honors Program students with any major and will count towards the degree in the College of Journalism and Mass Media.* Topic varies.

**[ES][IS] 200. Technical Communication I** (3 cr I, II) Lec 3. *Open only to freshmen and sophomores. For students with limited or no course work in their majors.*

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.

**[ES][IS] 300. Technical Communication II** (3 cr I, II) Lec 3. *Open only to juniors and seniors.*

Interdisciplinary approach to written and oral communication and document design principles and strategies. Applies course work from the student's major to issues in science and technology. Problem solving and critical thinking. Integrates various perspectives through collaborative learning in team projects.

**[IS] 321. The Citizen and the Mass Media** (3 cr) Prereq: Junior standing. *Open to non-majors only.*

Structure and content of the mass media and how various issues reveal the strengths and limitations of the mass media.

**458/858. New Media Design** (3 cr) Lec, lab. Prereq: NEWS 217 or ADVT 333 or permission.

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.

**\*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 Department (ADVT)

**Head: Associate Professor Nancy Mitchell**

**Professors:** Crumley (emeritus), Shipley

**Associate Professor:** Mitchell

**Assistant Professors:** Cho, Lauerman

**Senior Lecturer:** James

**Lecturer:** Hinrichs, Schaeffer, Vobejda

### Requirements for the Major in Advertising

The courses required for a 35-hour major in the advertising department are as follows:

**ADVT** 281, 283, 333, 357, 460, 489;

**JOUR** 485, 486, 487; and 6 elective journalism hours.

Those advertising majors wanting a public relations emphasis must complete the following:

**ADVT** 250, 281, 283, 333, 450, 451, 481, 489

**BRDC** 379 or **ADVT** 459

**JOUR** 485, 486, 487

**NEWS** 282

An advertising major with a public relations emphasis requires 12-hour concentrations in both communications studies and marketing. (See adviser for list of specific courses.)

**[ES] 250. Introduction to Public Relations** (BRDC, NEWS 250) (3 cr) Prereq: Sophomore standing and 2.0 GPA; or freshman standing, advertising major, and 3.0 GPA; or permission. *Required.*

The field of public relations. Concepts, procedures and theories of public relations. Practice of public relations in business, government and other institutions. Psychological and creative factors involved in advertising, research, media and production.

**[ES] 281. Introduction to Advertising** (3 cr) Prereq: Sophomore standing and 2.0 GPA; or freshman standing with a minimum of 12 credit hours completed, advertising major, and 3.0 GPA; or permission. *Required.*

Basic principles and practices of advertising as they relate to our economy, society, and systems of mass communication. Historical, social, and economic development of the field. Psychological and creative factors involved in advertising, research, media and production.

**283. Promotional Writing** (3 cr) Prereq: ADVT 281, journalism and mass communications major, and sophomore standing. *Required.*

Introduction to the techniques and styles of writing for all promotional media, including retail, magazine, radio, television, business-to-business and direct mail. Laboratory assignments provide practical writing experience.

**333. Communications Graphics** (3 cr) Prereq: ADVT 281, 283. *Required.*

Introduction to graphics and design of advertising. Basic principles and techniques of typography, layout and design, computer graphics, printing processes and production methods. Laboratory assignments include developing strategies and designing ads for advertising media and learning the basics of computer graphic design programs.

**[IS] 357. Advertising Copy and Strategy** (3 cr) Prereq: ADVT 281, 283, 333 and junior standing. *Required.*

Laboratory that explores the role copy plays with advertising strategy and integrated marketing communication. Analysis and application of creative strategies, product positioning, and writing techniques used for different media, audiences and product categories.

**433/833. Advanced Communications Graphics and Electronic Design** (3 cr) Prereq: ADVT 333 and JOUR 217, or permission.

Intermediate/advanced portfolio course in visual and graphic design as applied to the corporate environments of advertising and public relations. Print and electronic design principles, strategies and elements are incorporated into individual and team projects 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 student and faculty home pages and other WWW sites.

**450/850. Public Relations Theory, Strategy and Management** (BRDC, NEWS 450/850) (3 cr) Prereq: ADVT/BRDC/NEWS 250; ADVT 281 and 283, or BRDC 226 and 227, or NEWS 280 and 282.

Philosophies and theories that underlie the discipline and profession of public relations. Both critical and supportive perspectives used to gain insight into the history and direction of public relations.

**451/851. Public Relations Techniques: Writing, Message Dissemination and Media Networks** (BRDC, NEWS 451/851) (3 cr) Prereq: ADVT/BRDC/NEWS 250; ADVT 281 and 283, or BRDC 226 and 227, or NEWS 280 and 282.

Development of effective tools and strategies used by professional public relations practitioners. Participation in development of public relations materials. Focuses on promotional writing, publications development and media relations.

**457/857. Public Relations Research for Planning and Evaluation** (BRDC, NEWS 457/857) (3 cr) Prereq: BRDC 226, 227; ADVT 250, 281, 283; NEWS 280, 282.

Application of research procedures and methodologies used in public relations planning and evaluation. Methodologies appropriate for assessing public opinion, issues management and program assessment.

**458/858. Public Relations Strategy and Implementation** (BRDC, NEWS 458/858) (3 cr) Prereq: BRDC 226, 227; ADVT 250, 281, 283; NEWS 280, 282; ADVT/BRDC/NEWS 450, 451.

Application of research procedures and methodologies used in public relations planning and evaluation. Methodologies appropriate for assessing public opinion, issues management

**459/859. Advertising and Public Relations in the Electronic Media** (BRDC 459/859) (3 cr) Prereq: BRDC 227 and 228/228L, or ADVT 281, 283, 333, and 357, or permission.

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 with emphasis on regulation, responsibilities, audience analysis and promotion.

**[IS] 460/860. Advertising Media Strategy** (4 cr) Prereq: ADVT 281, 357, and junior standing. *Required.*

Principles and practices of evaluating and selecting media for advertising. Explanation of the media, their differences, how they are used in advertising, information resources and strategies for using media in advertising. Assignments include evaluating, selecting and planning the use of media in both local and national advertising situations.

**481/881. Advertising and Public Relations Audience Analysis** (3 cr) Prereq: ADVT 283 and 357, or permission. *Advertising majors with public relations emphasis may take course without ADVT 357 prerequisite.*

Research in the planning, development and evaluation of advertising. Understanding of the research process, the use of secondary sources of information, and how to analyze data from these sources. The planning and execution of primary research, including survey techniques. Students experience actual research process and produce a report on their findings.

**484/884. Advertising Management** (3 cr) Prereq: ADVT 357 and 460, or permission.

Insights into and hands-on experience with 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.

**486. Direct Advertising** (3 cr) Prereq: ADVT 333, 357.

Fundamentals of direct advertising, including 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. Laboratory assignments provide hands-on experience.

**488/888. Retail Advertising and Sales** (3 cr) Prereq: ADVT 357 or permission.

Principles and problems concerning retail, general, classified, and legal advertising for newspapers; staff organization; selling techniques and rate structures; and social and economic appraisal of newspapers as an advertising medium.

**[IS] 489/889. Advertising and Public Relations**

**Campaigns** (4 cr) Prereq: ADVT 333, 357, 460 and senior standing. *Advertising majors with public relations emphasis are exempt from the prerequisite of ADVT 357 and 460. Required.*

Problems and procedures in planning multimedia advertising campaigns. Students work in teams to develop the integrated marketing communications strategy and creative materials needed by an actual client. Students required to make sound advertising decisions based on research, applied theory and specific skills learned in earlier advertising course work.

**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.

**499. Independent Study in Advertising** (1-24 cr) Prereq: Permission of chair.

**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 Department (BRDC)

**Head: Associate Professor Jerry Renaud**

**Professors:** Hull, Mayeux, Walklin

**Associate Professors:** Renaud, Spann

**Assistant Professor:** Lee

**Lecturer and General Manager, KRNU-FM**

**Radio:** Alloway

### Requirements for the Major in Broadcasting

The courses required for a 35-hour major in the broadcasting department are as follows:

**BRDC** 226, 227, 228, 369, 370, 372

**JOUR** 485, 486, 487; and 6 elective journalism hours, 3 of which must be in broadcasting.

Those broadcasting majors wanting a public relations emphasis must complete the following:

**ADVT** 281, 481, 489

**BRDC** 226, 227, 228, 250, 369 or 379, 450, 451

**JOUR** 485, 486, 487

A broadcasting major with a public relations emphasis requires 12-hour concentrations in both communication studies and marketing. (See adviser for list of specific courses.)

## Requirements for the Minor in Electronic Media

**NOTE:** For non-majors only. Students wanting this minor must receive permission from their home department and college in order for it to count toward requirements in that college.

- 15 hours including 9 hours from Group A and 6 hours from Group B.

**Group A.** A student must take as least 9 hours from the following courses.

BRDC 226. Intro to Broadcasting (*Students taking 226 may NOT count JGEN 123.*)  
 BRDC 234. Audio & Studio Production  
 BRDC 269. Field Video Production  
 BRDC 370. Broadcast Writing  
 JGEN 123. The Media Today (*Students taking 123 may NOT count BRDC 226.*)

**Group B.** A student must complete 6 hours from the following courses.

BRDC 353. Broadcast/Cable Sales  
 BRDC 428. Advanced Television Production  
 Prereq: BRDC 234  
 BRDC 454. Broadcast Management  
 BRDC 455. Broadcast Programming  
 BRDC 456. Cable Telecommunication  
 BRDC 465. International Broadcasting  
 BRDC 469. Advance Videography/Cinematography  
 Prereq: BRDC 269  
 BRDC 473. Broadcast Documentary  
 Prereq: BRDC 269  
 BRDC 474. Advanced Broadcast Writing  
 Prereq: BRDC 370  
 BRDC 466. Telecommunications & Information Systems

**[ES] 226. Introduction to Broadcasting** (COMM 226) (3 cr) Prereq: Sophomore standing and 2.0 GPA; or freshman standing, broadcasting major, and 3.0 GPA; or permission. *Required.*  
 Development of the American system of broadcasting and the telecommunication industry.

**227. Principles of Radio and Television** (3 cr) Prereq: Broadcast major; sophomore standing with minimum cumulative 2.5 GPA; completion of broadcasting or COMM 226 (with C or above) or parallel enrollment in broadcasting 226; or permission. *Required.*  
 Operation and function of radio and television stations with special attention to Federal Communications Commission rules and regulations. Experience in production procedures in studios of university stations with emphasis on program preparation, design and performance.

**228. Broadcasting Production** (3 cr) Prereq: Sophomore standing and 2.0 GPA; or freshman standing, broadcasting major, and 3.0 GPA; or permission. *Required.*  
 Continuation of BRDC 227 with additional emphasis on television production. Lectures cover theory of production.

**228L. Broadcasting Production Laboratory** (1 cr) Prereq: Parallel BRDC 228. *Required.*  
 Laboratory exercises and productions held in studios of university stations KRNU (FM) and KUON-TV complement material covered in BRDC 228.

**234. Audio and Studio Video Production** (3 cr) Prereq: Sophomore standing and 2.5 GPA. *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.

**[ES] 250. Introduction to Public Relations** (ADVT, NEWS 250) (3 cr) Prereq: Sophomore standing and 2.0 GPA; or freshman standing, advertising major, and 3.0 GPA; or permission.  
 For course description, see ADVT 250.

**269. Field Video Production** (3 cr) Prereq: Sophomore standing and 2.5 GPA. *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.

**353. Broadcast/Cable Sales** (3 cr) Prereq: Junior standing in broadcasting or permission.

Ideas, procedures and processes which are appropriate to the sale of radio, television and cable messages. Presentations by professionals practicing in the field. Researching accounts, prospecting, comparisons, presentations.

**369. Cinematography/Videography** (3 cr) Prereq: BRDC 228. *Required.*

Uses of motion picture film and videotape including pictorial continuity, treatment procedures and editing with emphasis on use for television.

**[IS] 370. Broadcast Writing** (3 cr) Prereq: BRDC 227 and 228. *Required.*

Intensive training in writing style and techniques for broadcasting.

**[IS] 372. Advanced Reporting for Broadcasting** (3 cr)

Prereq: BRDC 369 and 370. *Required.*

Continuation of BRDC 370 with additional emphasis on broadcast news writing, editing and production.

**372L. Advanced Reporting for Broadcasting Laboratory** (1 cr) Prereq: Parallel registration in BRDC 372. *Required.*

Laboratory exercises and productions are held in studios at Avery Hall and complement material covered in BRDC 372.

**375. Sports Broadcasting** (3 cr) Prereq: BRDC 370 or permission.

Broadcast sports reporting with emphasis on play-by-play sports.

**379. Corporate and Organizational Video** (3 cr) Prereq: BRDC 369 or parallel or permission.

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 non-profit operations.

**428/828. Advanced Television Production** (3 cr) Prereq: BRDC 228 or permission.

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.

**450/850. Public Relations Theory, Strategy and Management** (ADVT, NEWS 450/850) (3 cr) Prereq: ADVT/BRDC/NEWS 250; ADVT 281 and 283; or BRDC 226 and 227; or NEWS 280 and 282.

For course description, see ADVT 450/850.

**451/851. Public Relations Techniques: Writing, Message Dissemination and Media Networks** (ADVT, NEWS 451/851) (3 cr) Prereq: BRDC 226 or 227 and 250; or ADVT 281, 283 and 250; or NEWS 280, 282 and 250.

For course description, see ADVT 451/851.

**454/854. Broadcast Management** (3 cr) Prereq: Senior standing in broadcasting or permission.

Organizational and management procedures as they relate to the telecommunications media.

**455/855. Broadcast Programming** (3 cr) Prereq: Senior standing in broadcasting or permission.

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 or permission.

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.

**457/857. Public Relations Research for Planning and Evaluation** (ADVT, NEWS 457/857) (3 cr) Prereq: BRDC 226, 227; ADVT 250, 281, 283; NEWS 280, 282.

For course description, see ADVT 457/857.

**458/858. Public Relations Strategy and Implementation** (ADVT, NEWS 458/858) (3 cr) Prereq: BRDC 226, 227; ADVT 250, 281, 283; NEWS 280, 282; ADVT/BRDC/NEWS 450, 451.

For course description, see ADVT 458/858.

**459/859. Advertising and Public Relations in the Electronic Media** (ADVT 459/859) (3 cr) Prereq: BRDC 228 or ADVT 357 or permission.

For course description, see ADVT 459/859.

**[ES] 461/861. Instructional Television** (3 cr) Prereq:

Senior standing in broadcasting or permission. 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 or permission.

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) Prereq: BRDC 369 or permission.

Continuation of BRDC 369 with additional emphasis on production of single and double system sound films as well as production of videotapes for television.

**473/873. Broadcast Documentary** (3 cr) Prereq: BRDC 372, senior standing in broadcasting or permission.

Depth reporting and advanced production techniques necessary for the preparation of a broadcast documentary program.

**474/874 [474x]. Advanced Broadcast Writing** (3 cr)

Prereq: Senior standing in College of Journalism and Mass Communications or permission.

Techniques of planning, preparing and writing radio, television and motion picture scripts including announcements, interviews, talk programs, features, editorials, investigative reports and dramatic adaptations.

**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. Independent Study in Broadcasting** (1-24 cr)

Prereq: Permission of chair.

**499H. 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 Department (NEWS)

**Head:** Associate Professor Daryl Frazell

**Professors:** Botts (emeritus), Copple (emeritus), Norton, Stricklin, Tuck

**Associate Professors:** Bender, Frazell, Neal (emeritus), Pagel (emeritus)

**Assistant Professor:** Berens

## Requirements for the Major in News-Editorial

The courses required for a 35-hour major in the news-editorial department are as follows:

**NEWS** 180, 280, 282, 217, 284, 371, 381

**JOUR** 485, 486, 487; and 3 elective journalism hours.

**[IS] 180. Journalism Today** (3 cr) Lec 2, rct 1. *Required.*

Basic understanding of news and how it is handled in the print media. Various news categories (hard news, features, sports, and business) and how a complete news-gathering team (reporters, photographers, designers, and editors) pull the elements of a story together for presentation to readers. Diversity and the news-room of different voices needed to produce a publication that will be read and appreciated by a diverse society.

**[IS] 184. Basic Photography** (3 cr) Lec, lab. *Credit in NEWS 184 will not count towards 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.* Basic skills in photography. Developing and printing of black and white materials. Camera operations, including depth of field and action. Composition and lighting. Display of finished work.

**217. Typography** (3 cr) Prereq: Sophomore standing, NEWS 180 and College of Journalism and Mass Communications major. *Required for all news-editorial majors.* Introduction to type and uses of type. Basics of design layout. Uses of illustration. Overview of the three major printing processes. Principles of computerized text editing. Lecture and laboratory experiences in all of these.

**[ES] 250. Introduction to Public Relations** (ADVT, BRDC 250) (3 cr) Prereq: Sophomore standing and 2.0 GPA; or freshman standing, advertising major, and 3.0 GPA; or permission. For course description, see ADVT 250.

**[ES] 280. Principles of Editing** (3 cr) Prereq: Sophomore standing, NEWS 180 and College of Journalism and Mass Communications major. *Required.* Techniques of editing. Fundamentals of line editing, news judgment, decision making. Exercises designed to promote constructive criticism of the work of others and the student's own writing. Preparation for advanced courses in newspaper editing and magazine editing.

**[ES] 282. News Writing and Reporting** (3 cr) Prereq: Sophomore standing, NEWS 180 and College of Journalism and Mass Communications major, and typing ability. *Required.* Intensive training in the language, reporting and writing of news stories. Techniques of gathering information and selecting and structuring that information for presentation in newspapers. Laboratory assignments include stories to be written both in and out of the classroom.

**284. Introduction to Photojournalism** (3 cr) Prereq: Sophomore standing and NEWS 180. *It is strongly recommended that students supply their own camera, flash, and film developing tank. Supplies will cost approximately \$100-\$150. Required.* Fundamentals of photography and photojournalism. A laboratory course that provides practice in the use of cameras, developing, printing, enlarging pictures and photo layout for publication.

**[IS] 371. Advanced Reporting** (4 cr) Prereq: NEWS 217, 280, 282 and 284. *Required.* Public affairs reporting and general assignment reporting at all levels. All live assignments in which the emphasis is on complete presentation and on deadlines. After seven weeks the class is integrated with NEWS 376 and 381 for laboratory production of *The Journalist* twice a week. Use of electronic copy system.

**375. Photographic Lighting for Studio and Field** (3 cr) Lec, lab. Prereq: NEWS 284. *Students must provide their own camera, lenses, tripod, flash, flash meter, slave trigger, and light stand.* Technical issues for photojournalists in natural and artificial lighting used in the studio and the field. Foot candles, effective candle power seconds, lighting ratios, fill lighting, and multi-flash synchronization. Use of studio and field lighting equipment with an eye toward effective use of lighting by and for photojournalists.

**376. Photojournalism** (4 cr) Prereq: NEWS 217, 282 and 284. *Students must provide their own cameras, lenses and flash. Supplies will cost approximately \$250.* Techniques of press photography. Live news and feature picture assignments. News, production quality and production deadlines. After seven weeks the class is integrated with NEWS 371 and 381 for laboratory production of *The Journalist*.

**[IS] 381. Newspaper Editing** (4 cr) Prereq: NEWS 217, 280, 282 and 284. *Required.* News judgment, copy editing, flow and control of news in newsroom, photo editing and page layout. After seven weeks the class is integrated with NEWS 371 and 376 for laboratory production of *The Journalist*. Use of electronic copy system.

**384. The Magazine Article** (3 cr) Prereq: NEWS 217, 280, 282, 284, 371, 381, or permission of the news-editorial chair. *The magazine sequence—384 and 386—is an elective option and does not replace NEWS 371 and 381.* 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.

**386. Magazine Editing** (3 cr) Prereq: NEWS 217, 280, 282, 284, 371 and 381 or permission of the news-editorial chair. *The magazine sequence is an elective option and does not replace NEWS 371 and 381.* Scope, influence and responsibilities of the magazine as a cultural and social force. Laboratory problems include market research, dealing with authors and photographers, copy editing, editing of illustration, page layout and typographical display.

**401/801. Depth Reporting** (3 cr) Prereq: Senior standing, NEWS 371, and permission. Gathering and presenting stories that require extensive interviewing, backgrounding and research. Individual assignments and conferences.

**410/810. Creative Editing** (3 cr) Prereq: Senior standing, NEWS 381, and permission. Seminars in first seven weeks cover broad, theoretical problems of newspaper editing, including selection of news and illustration and the display of those elements. Newspaper ethics, reader research and the changing industry. For the final seven weeks, students become the assignment editors, news editors and makeup editors for the laboratory newspaper, *The Journalist*.

**450/850. Public Relations Theory, Strategy and Management** (ADVT, BRDC 450/850) (3 cr) Prereq: ADVT/BRDC/NEWS 250; ADVT 281 and 283; or BRDC 226 and 227; or NEWS 280 and 282. For course description, see ADVT 450/850.

**451/851. Public Relations Techniques: Writing, Message Dissemination and Media Networks** (ADVT, BRDC 451/851) (3 cr) Prereq: BRDC 226 or 227 and 250; or ADVT 281, 283 and 250; or NEWS 280, 282 and 250. For course description, see ADVT 451/851.

**457/857. Public Relations Research for Planning and Evaluation** (ADVT, BRDC 457/857) (3 cr) Prereq: BRDC 226, 227; ADVT 250, 281, 283; NEWS 280, 282. For course description, see ADVT 457/857.

**458/858. Public Relations Strategy and Implementation** (ADVT, BRDC 458/858) (3 cr) Prereq: BRDC 226, 227; ADVT 250, 281, 283; NEWS 280, 282; ADVT/BRDC/NEWS 450, 451. For course description, see ADVT 458/858.

**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.

**478. Color Photography** (3 cr) Lec, lab. *Students are required to provide cameras, lenses, and flash. Supplies will cost approximately \$250.*

Theory and practice of current color usage in photojournalism and industry. Color theories, development and printing of positive and negative films, slide-tape production, color separations, push processing and use of lighting equipment in studio and field conditions.

**479/879. Advanced Graphics** (3 cr) Prereq: Senior standing, NEWS 381, and permission. Intensive lecture/laboratory experience combining journalism writing and editing with computer graphics technique.

**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.

**499. Independent Study in News-Editorial** (1-24 cr, max 24) Prereq: Permission of chair.

**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 or permission.

**\*804. Newsroom Management and Organization** (3 cr)



## Ali Moeller

"Undergraduate teaching is the most important thing a research university can do. I've taught at many other universities, and I have never had students like I have had at Nebraska. The work ethic is incredible — they come with a desire to learn.

"Learning is my first passion. Because I love to learn, I also love to see other people learn and form a community of learners. My strength as a teacher is being able to create an environment in which all perspectives are safe to have a voice, and we really learn to look into each other and listen and respond to one another. I have the ability to build a classroom where I am center stage at the beginning, but within a few weeks, no one would know who's in charge.

"Technology is another of my passions, but only in the sense that it is a tool for learning. It is not a game. It is not a toy. It is my opportunity to get students to do deep learning and really analyze a topic in a substantive fashion. I use technology in teaching to help build a community of accountable, responsible scholars — a community that is connected to their real lives so they can make meaning of their own existence."

*Ali Moeller is the Edith S. Greer Professor of Education in the Center for Curriculum and Instruction in Teachers College.*



# Teachers College

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## About the College

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### Administrative Structure

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**James P. O'Hanlon**, Ed.D., Dean and Professor of Curriculum and Instruction

**L. James Walter**, Ed.D., Associate Dean and Associate Professor of Curriculum and Instruction

**James Cotter**, M.S., Director of Advising, Student Services Center

**Thomas Wandzilak**, Ph.D., Director of Field Experiences/Certification Officer, Student Services Center, and Associate Professor of Health and Human Performance

### History and Tradition

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Teachers College offers excellent educational advancement to both undergraduate and graduate students, serving approximately 2000 undergraduate and 750 graduate students each year.

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, vocational and adult education, communication disorders, special education, health and human performance, and educational psychology.

Early field placement in public and private schools is a nationally recognized hallmark of the teacher education program in Teachers College. 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.

The College is also a center for educational research and investigation. The viable products of these efforts are put to use 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.

### Faculty

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The College has 78 tenured and 25 tenure-track faculty, 48 of whom are editors or serve on editorial boards of scholarly journals. With a commitment to teaching, research, and service, Teachers College 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.

### Centers and Institutes

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#### Buros Institute of Mental Measurements

The Buros Institute is an integral part of the Department of Educational Psychology of Teachers College. Its primary objective is to publish descriptive information and candid, critical, scholarly reviews of test and test-related products published in the English-speaking countries of the world. Since its establishment, the Buros Institute has published more than 20 volumes which are widely consulted by individuals working in education, psychology, and industry. Other Institute activities include sponsoring a symposium on measurements and testing; providing professional consultation to governmental agencies, public schools, and individuals; and preparing the *Mental Measurements Yearbooks Database*.

#### Counseling and School Psychology Clinic

The Counseling and School Psychology Clinic, located in 130 Bancroft Hall, offers counseling and assessment services to UNL students and the Lincoln community. Graduate students in Counseling Psychology or School Psychology conduct all counseling and assessment, which gives them first-hand experience in working with clients. The Clinic's services include counseling in personal concerns, relationship problems, marriage and family problems, career and vocational concerns, school problems, child management, and related problems. The Clinic offers these services for free to University students and charges a small fee to nonstudents.

#### 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.

#### 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.

### Degree and Majors

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Teachers College offers an undergraduate bachelor of science in education degree. Students must have a minimum cumulative grade point average (GPA) of 2.5 to receive an undergraduate degree in Teachers College. 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 areas(s) with no grade lower than "C" in either area.

The College offers majors in more than 40 different teaching endorsements. In addition, the College offers undergraduate programs leading to careers in other fields, such as community health, administrative resource management, and exercise science.

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 Teachers College.

### Accreditation

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Teachers College is fully accredited by the Nebraska Department of Education and the National Council of Accreditation of Teacher Education (NCATE).

### Academic Advising

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The Teachers College Student Services Center is staffed with professional advisers to help students with course selection and registration, as well as long-range and career planning. Students are well advised to seek regular academic counseling from their assigned advisers in the Center because the professional staff

provides the most accurate information regarding current requirements and assists students in a timely completion of degree programs.

All field placements, including student teaching, are administered through the Center. In addition, Nebraska teacher certification is processed through the Center.

## 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, Teachers College 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, Director of Field Experiences, Student Services Center, 104 Henzlik Hall, 472-8626, as soon as possible. Students with questions pertaining to convictions should contact Dr. Wandzilak.

## Scholarships

Various donors have provided scholarships for Teachers College students. They are awarded annually and vary in amount. While priority is given to currently enrolled Teachers College students, some scholarship awards have been designated for incoming first year students. Students are encouraged to apply to the UNL Office of Scholarships and Financial Aid as well as complete a college application form. Teachers College scholarship applications are available on the Internet at <http://tc.unl.edu/scholarships> and are due in February. Further information is available in the Student Services Center, 104 Henzlik Hall.

## Honors Program

The Teachers College Honors Program is a special program designed for future educators who have demonstrated outstanding academic potential. Formal application is required. Students in the program have ACT composite scores in the very high 20s or above and have demonstrated a commitment to intellectual curiosity and academic excellence. To complete the program, students take designated honors courses within the College, maintain a 3.5 cumulative GPA, and submit a senior honors research thesis.

## Dean's List

A Dean's List of Teachers College 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 3.60 in 12 or more graded semester hours. Exceptions may be

made for students taking required courses offered only on a P/N basis. Only credit hours earned in on-campus courses at UNL apply.

Student teachers who enter the semester of student teaching with a cumulative GPA of 3.60 or above will be considered eligible for the Dean's List with a recommendation from the University supervisor and cooperating teacher.

Post-baccalaureate students working on teacher certification are eligible upon request to the Director of Advising, but only undergraduate hours apply. Part-time undergraduates are eligible upon request to the Director of Advising and after the accumulation of 12 graded hours above 3.60.

## Degrees with Distinction

In recognition of outstanding academic excellence, Teachers College recommends the bachelors degree *With Distinction, With High Distinction, and With Highest Distinction*. All students graduating with distinction must meet the following criteria:

1. Candidates must have completed at least 60 hours at UNL by the time of graduation.
2. Persons in teaching endorsement programs must satisfactorily complete student teaching; persons in nonendorsement programs must fulfill satisfactorily practica or other internship experiences as required by their programs.

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 is used to determine eligibility.

**Highest Distinction.** Candidates for the bachelors degree who have achieved a 4.0 grade point average.

**High Distinction.** Candidates for the bachelors degree who have achieved outstanding scholastic standing and rank within the top five percent of all Teachers College students who have graduated in the preceding 12 month period.

**Distinction.** Candidates for the bachelors degree who have achieved outstanding scholastic standing and rank within the top ten percent of all Teachers College students who have graduated in the preceding 12 month period.

## Student Organizations

**Future Educators of Color (FEC).** The Future Educators of Color group assists in the mentoring, recruiting and retention of students of color in the Teachers College.

**Pi Lambda Theta.** Pi Lambda Theta is a national scholastic honorary organization for students in the Teachers College. Members must have sophomore, junior, or senior standing and have a GPA of 3.5 or higher.

**Teachers College Advisory Board (TCAB).** The Teachers College 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 commit-

tees of the College. Any undergraduate student enrolled in the College is eligible to apply to serve on the TCAB.

**Teachers College Student Alumni Ambassadors (TCSAA).** The Ambassadors are students uniting alumni with current Teachers College students to provide a collegial atmosphere.

**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 Human Resources and Family Sciences, Hixson-Lied College of Fine and Performing Arts, and Teachers College 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.

## 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.

## International Opportunities

Because today's classroom teachers interact with students of many backgrounds and cultures, Teachers College strongly encourages students to study abroad as a part of their undergraduate preparation. UNL offers many study-abroad programs through the office of International Affairs.

## 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 Teachers College:

- **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

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 Teachers College until such deficiencies are removed.

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 5.

## Transfer and Readmitted Student Requirements

Transfer and readmitted students seeking admission to the Teachers College must have an accumulated average of C+ (2.5 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 2.5 grade point average, and have removed any high school deficiencies, UNL students may apply for admission to the College.

Teachers College will accept 15 hours of D grades in transfer to meet the general education requirements only. Grades of D may not be used in the major/endorsement area courses or in the professional courses.

Transfer and readmitted students must meet the graduation requirements for Teachers College as stated in the current catalog in effect at the time they enter or reenter the College.

**To remain current, Teachers College 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 Teachers College will be considered readmitted students.** Students who transfer out of Teachers College, but who continue their certification program while seeking a degree in another UNL college, are exempt from this policy.

## International Students

Teachers College welcomes undergraduate international students. Degree and certification-seeking students 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. In addition, as a part of admission to the College, international students must present a TOEFL score of 600 or higher, and TSE score of 230 or higher.

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 Teachers College Student Services Center for details.

to create a program. Additional course work beyond the masters degree may be required for certification. All students seeking initial certification must also meet with the director of the Teachers College Student Services Center. Post-baccalaureate students will be required to be admitted to a Teacher Education Program (TEP) when obtaining initial teacher certification.

## College Academic Policies

### Student Classification in the College

#### Pre-Education

All newly admitted students, 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 Teachers College 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. Completion of at least 42 credit hours with a minimum 2.5 GPA.
2. Completion of EDUC 131 or CURR 331, or approved transfer course, **and** EDPS 250 or 251 with a C+ cumulative average in the two classes, and no grade lower than C.
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. Completion of one course in communication studies selected from COMM 109, 205, 209, 210, or 311, or approved substitute.
5. Faculty recommendations.
6. Successful completion of the first phase of the College technology requirement.
7. Demonstration of professional promise as determined by a faculty selection committee, and based on the following:
  - a. academic achievement, over and above the minimum 2.5 GPA;
  - b. accomplishments in areas such as second language acquisition, writing, mathematics, science, computer skills, music, art, or other;
  - c. cross-cultural experiences as demonstrated by an understanding of and an ability to work successfully with members of diverse groups as defined by the Teachers College Diversity Enrichment Plan;
  - d. commitment to the profession and a capacity to meet its professional standards.

#### Post-baccalaureate Students Seeking Initial Teaching Certification

Students who have received a bachelors degree and desire to obtain an initial teaching certificate may do so by pursuing a masters degree, a master of science in teaching degree, or a non-degree post-baccalaureate initial certification program. Those pursuing degrees must be accepted into a specific masters program and meet with a graduate faculty member or fellow

#### 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 apply 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 Teachers College, the Graduate College, or dual matriculation in Teachers College 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. Application for and completion of a senior check.
5. Minimum average of 2.5 in professional education courses and no grade below C.
6. Minimum average of 2.5 in each endorsement area with no grade below C.
7. Completion of all professional education courses and all "methods" courses as prescribed below for each endorsement area.

**Elementary, Middle Grades, and Secondary Majors.** Students meet all requirements for admission to student teaching and complete required methods courses and practicums with a minimum grade of C+.

**Special Education Majors.** Students meet all requirements for admission to student teaching and complete special education methods courses with no grade below a C+.

#### Student Teaching Placement

Student teachers are placed in many school districts both within Nebraska and in other states. **Students should be aware that they may be assigned to a school outside the Lincoln area for student teaching.** While student preferences for a particular location will be considered, not all personal preferences can be met.

#### 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 Teachers 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.

## Moral Character

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, Teachers College is interested in working with individuals of high moral character who can serve as representatives of our College and the University of Nebraska-Lincoln.

With this in mind, should the College discover behavior on the part of the candidate which establishes a lack of integrity or moral/ethical character, Teachers College reserves the right to deny entry to or dismiss anyone from any program which leads to certification.

Behavior which establishes a lack of integrity or moral/ethical character may exist when a student has a record of arrests and/or convictions which impacts the candidate's ability to represent himself or herself as a professional in the field of education, or other information exists which Teachers College reasonably determines renders the candidate a risk to the educational community or demonstrates a likelihood of illegal activity.

## 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 Director of 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, (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.

## Registration

Teachers College 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 students admitted into teacher education programs. **All prerequisites to Teachers 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.

## Pass/No Pass Grade Option

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 are rules that apply to Teachers College students choosing the pass/no pass option:

- Only one course in each subject endorsement; two courses in a field endorsement.
- A maximum of two courses in the professional requirements; however, **students in methods courses requiring a C+ may not choose the pass/no pass option.**
- Any course in the general education requirements unless otherwise stipulated by the department of the course.
- Total P/N credits may not exceed 24 credit hours. This limit does not include courses offered only on a P/N basis.

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.

## 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.

## Restrictions on D Grades

Grades below C may not be applied to any endorsement or non-teaching major or to the professional education requirements. Up to 15 hours of transfer credit with grades below C may be applied to the General Education requirements only.

## Grade Appeals

Students who feel that they have been graded unfairly in Teachers College courses may use the following sequential procedures to appeal the grade. The problem may be solved at any of the levels of the appeal procedure. All appeals must be filed within 30 days after grades are posted to students.

- Contact the instructor. Frequently the problem can be solved at this point.
- Submit a request to the chair of the department.
- Take the case to the departmental Grading Appeals Committee. The Committee is contacted by the department chair.
- Take the case to the College Appeals, Retention and Certification Committee by contacting the Dean's Office.

## College Graduation Requirements

### Senior Check

When students have completed 80 hours, they should apply for a credentials analyst's check of their academic records to be sure that all requirements will be met before the anticipated date of graduation. **This is the student's responsibility and must be done prior to graduation.** Application for a senior check is filed in the Credentials Office, 107 Canfield Administration Building.

### Degree Application

It is the student's responsibility to notify the Credentials Office, 107 Canfield Administration Building, early in the semester the student plans to graduate. Failure to meet the published deadline will delay graduation one full term.

### Residency Requirement

A minimum total of 125 credit hours of course work is required for a bachelors degree, of which 30 of the last 36 must be taken in residence at UNL. No more than 60 credit hours of correspondence study may be applied toward the total credits. **Correspondence and summer reading courses sponsored by the UNL Division of Continuing Studies 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 33).

## 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 Teachers College Student Services Center, 105 Henzlak Hall.

## Application for a Nebraska Teaching Certificate

To actively engage in the teaching profession, a candidate must meet 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 107 Canfield Administration Building. Post-baccalaureate students completing teacher certification apply to the certification office in the Student Services Center, 104 Henzlak Hall.

To be eligible for a recommendation for certification, a candidate must meet the following requirements:

1. Earn one or more degrees from Teachers College or another accredited institution approved by Teachers College with a minimum 2.5 grade point average.
2. Complete the Teachers College general education requirements.
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.

## Evaluation/Assessment

Students in Teachers College teaching endorsement programs are required to do any or all of the following:

- prior to graduation, pass a test that measures subject area knowledge;
- prior to graduation, have their teaching performance judged to be satisfactory by professional evaluators.

In addition, Teachers College will ask all graduates of teaching endorsement programs to participate in other kinds of follow-up tests and evaluations for two years after graduation.

## Degree Programs and Requirements

**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 Teachers College will be considered readmitted students.** To remain current, Teachers College students must enroll in, and complete, at least one UNL course that will apply toward degree requirements during a 12-month period. Students who transfer out of Teachers College, but who continue their certification program while seeking a degree in another UNL college, are exempt from this policy.

For students in teacher education, the undergraduate curriculum is composed of three parts: general education requirements (courses taken in the College of Arts and Sciences and other colleges), courses in the endorsements, and the professional education courses which are Teachers College courses.

## Bachelor of Science in Education: Elementary Education (minimum 125 hours)

### I. General Education Requirements (54-67 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. Students will complete the University's Essential Studies [ES] requirements as they complete the Teachers College General Education requirements. Students will complete the University's Integrative Studies [IS] requirements as they complete their degree requirements in the Teachers College. Pre-Professional Education and Professional Education courses may **not** be used to meet General Education requirements. **One course each in literature and philosophy (not logic) are required.**

#### A. Communication: Written (6 hours)

Select two courses from the following list:

- CURR 120  
ENGL 101  
ENGL 102  
ENGL 150  
ENGL 151

#### B. Mathematics and Statistics (9 hours)

Select MATH 203.

After meeting the Nebraska Department of Education basic skills competency requirement, select MATH 200 and MATH 201.

#### C. Human Behavior, Culture, and Social Organization (6 hours)

Select GEOG 140, 170, 271, or 272.

Select POLS 100 or 160.

### D. Science and Technology (9-12 hours)

Select one biological science course with laboratory.

Select one course from the following list:

Any chemistry course with lab.

Any physical, meteorological, or climatological geography course with lab.

Any geology course with lab.

Any physics course with lab.

Select one additional course from the ES list, Area D. See "Essential Studies Program List" on page 14.

### E. Historical Studies (6 hours)

Select HIST 100 or 101 or 120.

Select HIST 201 or 202.

### F. Humanities (6 hours)

Select one philosophy course (except logic) from the ES list, Area F. See "Essential Studies Program List" on page 14.

Select one additional course from the following list:

Any art course.

Any English literature course.

Any classics literature course.

Any modern languages literature course.

Any music course.

Any philosophy course (except logic).

Any theatre course.

### G. Arts (3 hours)

Select DRAW 101, DESN 111, or TXCD 121.

### H. Race, Ethnicity and Gender (3 hours)

Select one course from the ES list, Area H.

See "Essential Studies Program List" on page 14. *The following courses are recommended:*

ENGL 215E

ENGL 215J

ENGL 243B

ENGL 244

ENGL 244A

ENGL 244B

ENGL 245B

ENGL 245D

ENGL 245J

ENGL 315B

### I. Speech (3 hours)

Select one course from the following list:

COMM 109

COMM 205

COMM 209

COMM 210

### J. Physical and Mental Health (3 hours)

Select HLTH 100

### K. Foreign Language (0-10 hours)

Two years of high school study in one foreign language or two semesters of college credit in one foreign language are required.

### II. Pre-Professional Education Requirements (20 hours)

Students **must** complete the following courses before applying to the Elementary Teacher Education Program:

CURR 197

CURR 297A

EDPS 250

EDUC 131 or CURR 331

Students **may** complete the following courses prior to acceptance into the Elementary Teacher Education Program:

CURR 259  
CURR 330  
EDPS 362  
HHPT 380

### III. Professional Education Requirements (51 hours)

Before enrolling in the professional education courses, students must be accepted into the Elementary Teacher Education Program through submission and acceptance of a teaching portfolio. Upon acceptance, course numbers and call numbers can be obtained from the elementary education adviser in the Teachers College Student Services Center. Four full-time semesters of course work are required in the Professional Education area.

### IV. Area of Concentration or Dual Endorsement

Students must select an area of concentration (up to 18 hours) from the following list:

Health  
Language Arts  
Mathematics  
Music  
Science  
Social Studies

Instead of selecting an area of concentration, students may select a dual endorsement, combining elementary education with one of the following endorsements:

Art K-6  
Early Childhood Education  
Foreign Language K-6  
Physical Education K-6  
Special Education

## Bachelor of Science in Education: Middle Grades Education (minimum 125 hours)

### I. General Education Requirements (50-64 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. Students will complete the University's Essential Studies [ES] requirements as they complete the Teachers College General Education requirements. Students will complete the University's Integrative Studies [IS] requirements as they complete their degree requirements in the Teachers College.

A course may be used only once to fulfill the General Education requirements, except in Area H; the course in Area H may also be used to fulfill the non-Essential Studies requirement in Area C, F or I. Courses used to meet the General Education requirements may be applied to the major/endorsement area(s). Pre-Professional Education and Professional Education courses may **not** be used to meet General Education requirements.

Limit of 6 hours from one department in Areas B-J. **One course each in US history, philosophy (not logic), and literature are required.**

#### A. Communications: Written (6 hours)

Select two courses from the following list:

ALEC 102  
CURR 120  
ENGL 101  
ENGL 102  
ENGL 150  
ENGL 151  
FACS 215  
JGEN 200  
JGEN 300  
NEWS 280  
NEWS 282

At least one course from the English department is required.

#### B. Mathematics and Statistics (5-6 hours)

Select one course from the ES list, Area B. See "Essential Studies Program List" on page 14.

If necessary to complete 5-6 hours, select one additional course from the following list:

BIOM 201  
ECON 215  
EDPS 459  
MATH 101 or above  
PHIL 211  
STAT 180 or above

One course from the math department is required.

#### C. Human Behavior, Culture, and Social Organization (9 hours)

Select two courses from the ES list, Area C. See "Essential Studies Program List" on page 14.

Select one additional course from the following list:

AECN 141  
ANTH Any anthropology course.  
ECON Any economics course (except statistics).  
FREN 321 or 322  
GERM 321 or 322  
GEOG Any human, economic, or regional geography course.  
HHPT 279  
HIST Any history course.  
POLS Any political science course.  
PSYC Any psychology course (except developmental psychology and statistics).  
SOCI Any sociology course (except research methods).  
SPAN 321

#### D. Science and Technology (9-12 hours)

Select one course from the ES list, Area D. See "Essential Studies Program List" on page 14.

Select two additional courses from the following list:

AGRI 200  
AGRO 153  
AGRO 315  
ASCI 240  
ASTR 103  
BIOS Any biological science course.  
CHEM Any chemistry course.  
CURR 246

ENTO 108

ENTO 115

ENTO 300

GEOG Any physical, meteorological, or climatological geography course.

GEOL Any geology course.

HHPT 207

MSYM 109

NRES 211

NRES 310

NRES 311

PHYS Any physics course.

SLPA 271

SLPA 455

One course with a laboratory is required.

One course in applied science or technology is recommended.

#### E. Historical Studies (3 hours)

Select one course from the ES list, Area E. See "Essential Studies Program List" on page 14.

One course in US History is required. This may be met under Area C or E.

#### F. Humanities (9 hours)

Select one course from the ES list, Area F.

See "Essential Studies Program List" on page 14.

Select a philosophy course (except logic).

Select an additional course from the following list:

Any art course.  
Any English literature course.  
Any classics literature course.  
Any modern languages literature course.  
Any music course.  
Any theatre course.

#### G. Arts (3 hours)

Select one course from the ES list, Area G.

See "Essential Studies Program List" on page 14.

#### H. Race, Ethnicity and Gender (3 hours)

Select one course from the ES list, Area H.

See "Essential Studies Program List" on page 14.

#### I. Speech (3 hours)

Select one course from the following list:

ALEC 202  
ALEC 302  
ALEC 305  
COMM 109  
COMM 205  
COMM 209  
COMM 210  
COMM 212  
COMM 311

#### J. Physical and Mental Health (3 hours)

Select HLTH 100.

#### K. Foreign Language (0-10 hours)

Two years of high school study in one foreign language or two semesters of college credit in one foreign language are required.

## II. Pre-Professional Education Requirements (16 hours)

Students **must** complete the following courses before applying to the Middle Grades Teacher Education Program:

CURR 197Q  
EDPS 251  
EDPS 297Q  
EDUC 131 or CURR 331

Students **may** complete the following courses prior to acceptance into the Middle Grades Teacher Education Program:

CURR 259  
CURR 330  
EDPS 362

**Program Requirement:** completion of 500 hours of documented interactions with transescent students 9-15 years of age is required prior to admission.

## III. Teaching Endorsement Requirements

**Professional Education** (25-27 hours): CURR 351Q, 397Q, 446, 453, 454, 359, 497Q, 497Y, 497Z, 403; SPED 401B.

**Special Areas:** Choose **two** subject areas for 20-24 hours each and one subject area of 12 hours. No more than two areas may be selected from one of the Broad Fields listed below:

*Fine and Practical Arts Broad Field:* art (12 or 24 hrs), home economics (24 hrs), industrial technology (12 hrs);

*Humanities Broad Field:* language arts (24 hrs), world civilization (12 hrs), communication (12 or 24 hrs);

*Sciences Broad Field:* mathematics (20 hrs), natural sciences (23 hrs), agriculture (12 or 24 hrs);

*Social Sciences Broad Field:* history (12 or 21 hrs), or social sciences (12 or 21 hrs).

**NOTE:** See adviser in Teachers College Student Services Center for list of appropriate courses.

## IV. Professional Education Requirements (25-30 hours)

Students must be accepted into the Middle Grades Teacher Education Program through submission and acceptance of the "Application for Admission to the Middle Grades Teacher Education Program" before enrolling in the Professional Education courses. Upon acceptance, course numbers and call numbers can be obtained from the Middle Grades adviser in the Teachers College Student Services Center.

## Bachelor of Science in Education: Secondary Education (minimum 125 hours)

### I. General Education Requirements (50-64 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. Students will complete the University's Essential Studies [ES] requirements as they complete the Teachers College

General Education requirements. Students will complete the University's Integrative Studies [IS] requirements as they complete their degree requirements in the Teachers College.

A course may be used only once to fulfill the General Education requirements, except in Area H; the course in Area H may also be used to fulfill the non-Essential Studies requirement in Area C, F, or I. Courses used to meet the General Education requirements may be applied to the major/endorsement area(s). Pre-Professional Education and Professional Education courses may **not** be used to meet General Education requirements.

**Complete the General Education Requirements for Bachelor of Science in Education: Middle Grades Education, Areas A-K.**

### II. Pre-Professional Education Requirements (12-15 hours)

Students **must** complete the following courses before applying to the Secondary Teacher Education Program:

EDPS 251  
EDPS 297  
EDUC 131 or CURR 331

Students **may** complete the following courses prior to acceptance into the Secondary Teacher Education Program:

CURR 259  
CURR 330  
EDPS 362

### III. Teaching Endorsement Requirements

Teachers College endorsements (or majors) are divided into fields or single subjects.

Students graduating from Teachers College 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.

Those that require a second endorsement are noted with an asterisk in the "Endorsements" section. Students may contact the Teachers College Student Services Center, 105 Henzlak Hall, for additional information or an explanation of the requirements.

### IV. Professional Education Requirements (25-30 hours)

Students must be accepted into the Secondary Teacher Education Program through submission and acceptance of the "Application for Admission to 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 Teachers College Student Services Center.

## Bachelor of Science in Education: Non-Teaching Endorsement Programs (minimum 125 hours)

### I. General Education Requirements (50-64 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. Students will complete the University's Essential Studies [ES] requirements as they complete the Teachers College General Education requirements. Students will complete the University's Integrative Studies [IS] requirements as they complete their degree requirements in the Teachers College.

A course may be used only once to fulfill the General Education requirements, except in Area H; the course in Area H may also be used to fulfill the non-Essential Studies requirement in Area C, F, or I. Courses used to meet the General Education requirements may be applied to the program area(s). Limit of 6 hours from one department in Areas B-J.

**Complete the General Education Requirements for Bachelor of Science in Education: Middle Grades Education, Areas A-K.**

### II. Program Areas

- A. Administrative Resource Management
- B. Athletic Training (non-degree program)
- C. Community Health
- D. Exercise Science
- E. Prephysical Therapy (non-degree program)
- F. Speech Pathology and Audiology
- G. Technical Education

### Endorsements

Students graduating from Teachers College 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 Agriculture—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) 54 hours: DRAW 101, 102 3 hrs each; DESN 111, 3 hrs; 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.

**\*Art.** (Grades K-6) 30 hours: AHIS 101, 102 3 hrs each; DRAW 101, 102, 111 3 hrs each; SCLP 211 3 hrs; CERM 231 3 hrs; PRNT 241 3 hrs; PANT 251 3 hrs; art history or art studio 200- or 300-level course 3 hrs.

**NOTE:** Must accompany an elementary education endorsement.

**Biology.** (Grades 7-12) 56-57 hours: BIOS 114 5 hrs, 101 & 101L, 109 4 hrs each, 112 3 hrs, 213 & 213L, 301, 312/314, 320/322 4 hrs each; BIOC 321 4 hrs; PHYS 141 5 hrs; CHEM 109, 110, 251/253 4 hrs each; GEOL 101 4 hrs or 105 3 hrs.

**Business Education.** (Grades 7-12) 51-52 hours: CURR 120, 222, 229 3 hrs each, 322 2 hrs, 323, 325, 334, 425, 443 3 hrs each, 444 2 hrs; ACCT 201, 202 3 hrs each; ECON 210 5 hrs, **or** 211 and 212 3 hrs each; FINA 307 3 hrs; MRKT 341 3 hrs; MNGT 320 3 hrs; BLAW 371 3 hrs.

**NOTE:** Professional education requirements include EDUC 131 or CURR 331 3 hrs; CURR 330 3 hrs; EDPS 251 3 hrs, 297 1 hr, 362 3 hrs; CURR 451J, 452K (to be taken before student teaching), 424 3 hrs each; CURR 434 or SPED 401B 3 hrs; CURR 497J 10 hrs, 497Y, 497Z 1 hr each; plus 1000 hours paid business-related work experience **or** CURR 297 1-4 hrs.

**Chemistry.** (Grades 7-12) 56 hours: MATH 106, 107 5 hrs each; CHEM 109, 110, 221, 251/253 or 261/263 4 hrs each, 421, 471 or 481 4 hrs each; BIOC 321 4 hrs; PHYS 141 or 211 and 220, 142 or 212 and 222 5 hrs each; METR 251/252 4 hrs; BIOS 101 & 101L 4 hrs.

**Earth Science.** (Grades 7-12) 55 hours: GEOL 101 & 101L 4 hrs, 103, 109, 210 3 hrs each, 211 1 hr, 220, 310, 311, 340, 450 3 hrs each; METR 251/252 4 hrs; 6 hrs electives from GEOL 106, 107, 460, 488 or SOIL 153; CHEM 109 or 113 4 hrs; BIOS 101 4 hrs; ASTR 103 3 hrs; PHYS 141 5 hrs.

**Economics and History.** (Grades 7-12) 66 hours: ECON 211, 212, 373, 374, 303 or 321 3 hrs each, and 15 hrs of economic electives with 12 hrs from 300/400 levels. HIST 100, 101, 201, 202 3 hrs each; 6 hrs from HIST 232, 261, 262, 271, 272, 281, 282, 336, 337, 338, 361, 362, 371, 372, 382, 384; 6 hrs from HIST 334, 335, 341/342, 345, 347, 348, 349, 350, 351, 352, 353, 354, 355, 358, 359, 360; 6 hrs of history electives, at least 12 hrs from the 300/400 levels. Six hours from two of the following disciplines: anthropology, geography, political science, psychology, and sociology.

**Elementary Education.** (Grades K-8) minimum 82 hours: Professional: EDUC 131 3 hrs; EDPS 250, 362 3 hrs each; HHPT 380 2 hrs; MUED 370 3 hrs; CURR 330, 302, 306, 307, 308, 311, 313, 315, 351 3 hrs each, 359, 403 2 hrs each; SPED 401A 3 hrs. Field Experiences: CURR 197, 297A 2 hrs each, 297B, 397A, 397B 3 hrs each, 497A 8-10 hrs, 497Y, 497Z 1 hr each. Plus one Area of Concentration (12-30 hrs) chosen from art, foreign language, health, language arts, math, music, physical education, science, social science, or special education; or a Second Endorsement in art, early childhood, foreign language, music, physical education. Grades below C may not be applied to any part of this endorsement.

#### Dual endorsement programs in Elementary Education

**1. Elementary Education-Early Childhood Education.** (Elementary Education Grades K-8, Early Childhood Education Pre-K/3). Students must complete all requirements for Elementary Education (K-8) with the

following exceptions: FACS 160 replaces EDPS 250; FACS 270/270L replaces CURR 297A, FACS 476 replaces EDPS 362, CURR 359 not required. Additional requirements: FACS 171, 372, 381, 382, 474, 477 3 hrs each, 497A 9 hrs, and CURR 310 2 hrs.

**2. Elementary Education-Physical Education.** (Elementary Education Grades K-8, Physical Education Grades K-6): Students must complete all requirements for Elementary Education K-8 plus the following: HHPT 179 3 hrs, 207 4 hrs, 230, 275, 279, 281, 372, 397A, 484 3 hrs each; BIOS 101/101L, 213 4 hrs each; HLTH 100 3 hrs; FACS 160 or EDPS 250 3 hrs, 270/270L 4 hrs; CURR 497E 4-6 hrs.

**NOTE:** First Aid and CPR Certification required. (Red Cross or HLTH 170 Emergency Health Care or ATHT 235.)

**English.** (Grades 7-12) 45 hours: writing 9 hrs including ENGL 457; language, 9 hrs including CURR 438/838; literature, 24 hrs including British literature 6 hrs; American literature 6 hrs; CURR 439/839 3 hrs; nontraditional cultural perspectives literature 6 hrs, ENGL 476 3 hrs; approved electives 3 hrs. (21 hrs must be above 299, 9 hrs above 399.)

**NOTE:** See adviser in Teachers College Student Services Center for list of appropriate courses.

**Family and Consumer Sciences.** For a description of the program for teacher preparation in family and consumer sciences, see the College of Human Resources and Family Sciences "Department of Family and Consumer Sciences" on page 289. A combined **family and consumer sciences and health** endorsement is also available.

**French.** (Grades 7-12) 30-46 hours: Beginning and intermediate language courses FREN 101, 102 5 hrs each, 201, 202 3 hrs each or equivalents; FREN 203, 204, 319, 321, 322 3 hrs each; 6 hrs to be chosen from FREN 301, 302, 317, 399; FREN 303, 304 3 hrs each; one additional 400-level French class 3 hrs. Credit granted for study abroad.

**Geography and History.** (Grades 7-12) 66 hours: GEOG 120, 140, 150, 181 3 hrs each; 6 hrs selected from GEOG 170, 271, 370, 372, 374, 375, 378; 6 hrs selected from GEOG 242, 334, 361, 431, 435, 447; 6 hrs electives, at least 12 hrs from 300/400 levels. HIST 100, 101, 201, 202 3 hrs each; 6 hrs from HIST 232, 261, 262, 271, 273, 281, 282, 336, 337, 338, 361, 362, 371, 374, 382, 384; 6 hrs from HIST 334, 335, 341, 342, 345, 347, 348, 349, 350, 351, 352, 353, 354, 355, 357, 358, 359, 360; 6 hrs of history electives, at least 12 hrs from the 300/400 levels. Six hours from two of the following disciplines: anthropology, economics, political science, psychology, and sociology.

**German.** (Grades 7-12) 30-43 hours: Beginning and intermediate language courses GERM 101, 102 5 hrs each, 201, 202 3 hrs each or equivalents; GERM 203, 204, 319, 321/322 3 hrs each; 6 hrs to be chosen from GERM 301, 302, 317, 398; GERM 303, 304 3 hrs each; one additional 400-level German class 3 hrs. Credit granted for study abroad.

**\*Health.** (Grades 7-12) 38 hours: HLTH 170, 201, 212 3 hrs each, 255 4 hrs, 326, 351 3 hrs each; NUTR 255 1 hr; EDPS 463 or approved EDPS course 3 hrs; BIOS 213 4 hrs; HHPT 207 4 hrs; HLTH 401, 403 3 hrs each, 409 1 hr.

**Health and Physical Education.** (Grades K-12) 70-73 hours: HHPT 179 3 hrs, 207 4 hrs, 279, 281, 288, 330, 372, 377 3 hrs each, 388 2 hrs, 397D 1 hr, 484 3 hrs, 486 4 hrs, 488 3 hrs; HLTH 201, 212 3 hrs each, 255 5 hrs, 326, 351, 401, 403 3 hrs each, 409 1 hr; SPED 401B 3 hrs; BIOS 213 4 hrs; DANC 101, 126 or 127 1 hr. First Aid and CPR Certification required through Red Cross Training or HLTH 170 Emergency Health Care.

**NOTE:** Professional education requirements include EDUC 131 or CURR 331 3 hrs; EDPS 250 or 251 3 hrs, or FACS 160 3 hrs; EDPS 297 1 hr, 362 3 hrs; CURR 330 3 hrs, 359 2 hrs; HHPT 275 3 hrs, 321 2 hrs, 397A 3 hrs, 397B 1-3 hrs, 397D 1 hr, 497E 4 hrs, 497K, 497U 3 hrs each, 497Y, 497Z 1 hr each.

**\*History and a Non-Social Science Discipline.** (Grades 7-12) 36 hours history plus hours required from the non-social science discipline (see appropriate listing for other endorsement requirements): HIST 100, 101, 201, 202 3 hrs each; 6 hrs from HIST 232, 261, 262, 271, 272, 281, 282, 336, 337, 338, 361, 362, 371, 372, 382, 384; 6 hrs from HIST 334, 335, 341-342, 345, 347, 348, 349, 350, 351, 352, 353, 354, 355, 358, 359, 360; 6 hrs of history electives, at least 12 hrs from 300/400 levels. Six hours from two of the following disciplines: anthropology, economics, geography, political science, psychology, and sociology.

#### Industrial Education (two plans)

##### 1. Industrial Technology Education

(Grades 7-12) 45 hours: CURR 101, 102, 103, 104, 109, 201, 203, 204, 205, 242, 243, 246 3 hrs each; 9 hrs of industrial technology electives.

**NOTE:** Professional education requirements include EDUC 131 or CURR 331 3 hrs; CURR 330 3 hrs; EDPS 251 3 hrs, 297 1 hr, 362 3 hrs; CURR 210, 397 1 hr each, 424, 451M, 452K 3 hrs each; CURR 434 or SPED 401B 3 hrs; CURR 445 3 hrs, 497M 10 hrs, 497Y, 497Z 1 hr each.

##### 2. Trade and Industrial Education

(Grades 10-12) 62 hours including 12 approved hours of specialization in one of the following: construction, metals, automotive, drafting, or electricity/electronics. Students are also required to complete: CURR 246 3 hrs; 30 approved hours of industrial related course work; 17 hrs of professional vocational education including: CURR 210, 397 1 hr each, 424, 451M, 452K 3 hrs each; CURR 434 or SPED 401B 3 hrs; CURR 445 3 hrs; and 2000 hours paid industrial-related work experience.

**NOTE:** The remaining professional education requirements include: EDUC 131 or CURR 331 or 431 3 hrs; CURR 330 3 hrs; EDPS 251 3 hrs, 297 1 hr, 362 3 hrs; CURR 497M 10 hrs, 497Y, 497Z 1 hr each.

**Journalism and English.** (Grades 7-12) 31-32 hours plus English endorsement: NEWS 280, 282, 284 3 hrs each, 371 4 hrs, 381, 467 3 hrs; ADVT 217 3 hrs; JOUR 487 3 hrs. Select one of the following 6 hr sequences: BRDC 226

and 227; ADVT 281 and 283; NEWS 376 and 478; or JOUR 485 or 486. In addition, must do English endorsement.

**Language Arts.** (Grades 7-12) 75 hours: THEA 114, 201, 202, 337 12 hrs; NEWS 180, 280, 282, 467 12 hrs; COMM 200, 201, 212, 412 12 hrs; JGEN 123 or 321 3 hrs; CURR 411, 438, 439, 441 3 hrs ea; ENGL 457, 476 3 hrs ea; 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.

**Latin.** (Grades 7-12) 32-45 hours: LATN 101, 102 5 hrs each, 201, 301, 302, 303, 456/856 3 hrs each, 21 hrs to be chosen from provided list. See adviser in Teachers College Student Services Center.

**Marketing Education and Basic Business.** (Grades 7-12) 54-57 hours: ACCT 201, 202 3 hrs each; ECON 210 5 hrs, 215 3 hrs; MNGT 320 3 hrs, select 3 hrs from MNGT 361, 464, or 465; BLAW 371 3 hrs; MRKT 341, 345, 346, 347 3 hrs each; select 3 hrs from MRKT 425, 443, 444, or 458; CURR 120, 222 3 hrs each, 297 1-4 hrs, 424, 425, 434 or SPED 401B 3 hrs each.

**NOTE:** Professional education requirements include: EDUC 131 or CURR 331 3 hrs each; CURR 330 3 hrs; EDPS 251 3 hrs, 297 1 hr, 362 3 hrs; CURR 451J, 452K (to be taken before student teaching) 3 hrs each, 497O 10 hrs, 497Y, 497Z 1 hr each.

**Mathematics.** (Grades 7-12) 35 hours: MATH 106 5 hrs (prerequisite is math placement test), 107 5 hrs, 208 4 hrs, 260, 310, 314, 350 3 hrs each; STAT 380 3 hrs; CSCE 155 3 hrs; MATH 405 or 221 or 400-level course approved by adviser 3 hrs.

**Middle Grades Education.** (Grades 4-9) Program Requirement: completion of 500 hours of documented interactions with transescent students 9-15 years of age is required prior to admission.

Pre-Education (16 hours): EDUC 131 or CURR 331; CURR 197Q, 330; EDPS 251, 297Q, 362.

Professional Education (25-27 hours): CURR 351Q, 397Q, 446, 453, 454, 359, 497Q, 497Y, 497Z, 403; SPED 401B.

**Special Areas:** Choose **two** subject areas for 20-24 hours each and one subject area of 12 hours. No more than two areas may be selected from one of the Broad Fields listed below:

*Fine and Practical Arts Broad Field:* art (12 or 24 hrs), home economics (24 hrs), industrial technology (12 hrs);

*Humanities Broad Field:* language arts (24 hrs), world civilization (12 hrs), communication (12 or 24 hrs);

*Sciences Broad Field:* mathematics (20 hrs), natural sciences (23 hrs), agriculture (12 or 24 hrs);

*Social Sciences Broad Field:* history (12 or 21 hrs), or social sciences (12 or 21 hrs).

**NOTE:** See adviser in Teachers College Student Services Center for list of appropriate courses.

**Mild/Moderate Disabilities.** (Grades 7-12) 40 hrs: Students must complete the following: SPED 201 or 400 or 800, 302 or 802, 303 or 804, 304 or 803, 310 or 908, 406 or 806, 407 or 807, 408 or 808, 480 or 880 and 496 or 896 3 hrs each; 497M 11 hrs or 897M 5 hrs; 497Z

or 897Z and 498 or 898 1 hr each. Students must complete one of the following: SPED 435, 436, 835, 836, CURR 441, 841 or CURR methods elective 3 hrs 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) 71 hours: ASTR 103 3 hrs, 204/224 4 hrs; PHYS 115 3 hrs, 141 or 211/220 5 hrs, 142 or 212/222 5 hrs; CHEM 109, 110, 221 12 hrs, 251/253 4 hrs; BIOS 101 and 101L, 109 4 hrs each, 112 4 hrs, 114 5 hrs, 213 & 213L, 312/314 4 hrs; GEOL 101 4 hrs, 103 or 105 3 hrs; METR 251 1 hr, 252 3 hrs.

**\*Physical Education.** (Grades K-6) 53 hours: HHPT 179 3 hrs, 207, 275 4 hrs each, 279, 281 3 hrs each, 297A 1 hr, 321, 330, 372, 377 3 hrs each, 397A 2 hrs, 397D 1 hr, 484 3 hrs; HLTH 100 3 hrs, 255E, G, N 3 hrs; FACS 160 or EDPS 261 3 hrs; DANC 248 2 hrs; SPED 401A 3 hrs; ATHT 235 3 hrs.

**Physical Education.** (Grades K-6 and 7-12) 63 hours: HHPT 179 3 hrs, 207, 275 4 hrs each, 279, 281, 288 3 hrs each, 297A, 297B 1 hr each, 321, 330, 372, 377, 388 3 hrs each, 397A, 397B 2 hrs each, 397D 1 hr, 484 3 hrs; HLTH 100 3 hrs, 255E, G, N 1 hr each; FACS 180 or EDPS 251 3 hrs; DANC 101, 126 or 127 1 hr, 248 2 hrs; SPED 401B 3 hrs; ATHT 235 3 hrs.

**\*Physical Education.** (Grades 7-12) 48 hours: HHPT 179 3 hrs, 207 4 hrs, 279, 288 3 hrs each, 297B 1 hr, 321, 330, 372, 377, 388 3 hrs each, 397B 2 hrs, 397D 1 hr, 484 3 hrs; HLTH 100 3 hrs, 255E, G, N 3 hrs; SPED 401B 3 hrs; DANC 101, 126 or 127 1 hr; ATHT 235 3 hrs.

**Physical Science.** (Grades 7-12) 70 hours: MATH 106, 107 5 hrs each; BIOS 101 & 101L 4 hrs, 230 3 hrs; ASTR 103 3 hrs, 204/224 4 hrs; PHYS 211/220, 212/222, 213/223 5 hrs each; CHEM 109, 110, 221, 251/253 4 hrs each; BIOC 321 4 hrs; GEOL 101 4 hrs, 103 or 105 3 hrs; METR 251/252 4 hrs.

**\*Physics.** (Grades 7-12) 51 hours: MATH 208 4 hrs, 220 or 221 3 hrs; PHYS 211/220, 212/222, 213/223 5 hrs each, 231, 311, 441 3 hrs each; ASTR 204/224 4 hrs; CHEM 109, 110 4 hrs each; BIOS 101 & 101L 4 hrs; METR 251/252 4 hrs.

**Political Science and History.** (Grades 7-12) 66 hours: POLS 100 3 hrs; 3 hrs selected from POLS 104, 108, 160; 24 hrs selected from POLS 225, 230, 231, 232, 325, 345, 350, 380, 421, 427, 441, 443, 450; at least 12 hrs from 300/400 level. HIST 100, 101, 201, 202 3 hrs each; 6 hrs from HIST 232, 261, 262, 271, 272, 273, 281, 282, 336, 337, 338, 361, 362, 371, 382, 384; 6 hrs from HIST 334, 335, 341, 342, 345, 347, 348, 349, 350, 351, 352, 353, 354, 355, 357, 358, 359, 360; 6 hrs of history electives, at least 12 hrs from the 300/400 levels. Six hours from two of the following disciplines: anthropology, economics, geography, psychology, and sociology.

**\*Reading.** (Grades 7-12) 24 hrs: EDPS 457 or 854, SPED 406/806, CURR 411A/811A, 438/838, 439/839, 441/841 3 hrs each. Select 6 hrs from CURR 411B/811B, 453T/853T, 854, 886, 951, 989, or SPED 405/805.

**Russian.** (Grades 7-12) 30-43 hrs: Beginning and intermediate language courses RUSS 101, 102 5 hrs each, 201, 202 3 hrs each or equivalents; RUSS 301, 302, 398, 303, 304 3 hrs each; 12 additional hours from RUSS 399, 441, 442, 482, 498. Credit granted for study abroad.

**Social Science.** (Grades 7-12) 66 hours:

**a)** 24 hrs of history including HIST 100, 101, 201, 202 3 hrs each; 3 hrs selected from HIST 210, 211, 212, 231, 232; 3 hrs selected from HIST 334, 335, 341/342, 345, 347, 348, 349, 350, 351; 6 hrs electives from 300/400 level;

**b)** Second social science area-12 hrs. Choose from: ANTH 110 and 3 hrs from ANTH 130, 212, 232, 362, and 6 hrs of electives; ECON 211 and 212, and 6 hrs of electives; GEOG 120 or 140 and 272, and 6 hrs of electives; POLS 100 and 3 hrs from POLS 104, 108, 160, and 6 hrs of electives; PSYC 181 and PSYC 263, 287 or 288, and 6 hrs of electives; SOCI 101 and 3 hrs from SOCI 209, 210, 217, 255, and 6 hrs of electives.

**c)** Remaining social sciences-30 hrs, with 6 hrs from each subject area not selected in section (b).

**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 3 hrs each, 300 6 hrs, 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 457 3 hrs or approved 400-level communications studies course. In addition must do English endorsement.

**Speech, Drama and English.** (Grades 7-12) 36 hours plus English endorsement: COMM 109 or 209, 200, 201, 205, 211 or 283, 210, 212, 412, 226 3 hrs each; THEA 114, 201, 202, 335 or 336 3 hrs each. In addition must do English endorsement.

**Speech-Language Pathologist.** (Grades P-12) 52-53 hours: SLPA 150, 250, 251, 271 12 hrs; 455, 456 8 hrs; 397A 1 hr; 452, 461, 464, 472, 473, 421, 441 21 hrs; SPED 400 or approved elective 3 hrs; EDPS 459 3 hrs; biological sciences anatomy or human physiology 4-5 hrs. 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.

**Theatre and English.** (Grades 7-12) 36 hours plus English endorsement: THEA 112, 114, 115, 201, 202 3 hrs each, 204 2 hrs, 223, 255 3 hrs each, 285/286 1 hr, 335 or 336, 410, 418 3 hrs each, elective theatre course 3 hrs. In addition, must do English endorsement.

**NOTE:** See adviser in Teachers College Student Services Center for list of appropriate courses.

## Supplemental 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) 21 hours: HHPT 279, 372, 490 3 hrs each; ATHT 235 3 hrs; 6 hrs selected from ATHC 311, 312, 317, 318; ATHC 494 3 hrs.

**Computer Science.** (Grades 7-12) 15 hours: CSCE 155, 156, 230 3 hrs each; VAED 321W 1 hr. Select two (1 hr) courses from CSCE 251U, 251Y, 252A, 252D, 252G. Select one (3 cr) course from CSCE 231, 235 or 310.

**Diversified Occupations.** (12 hours): CURR 424, 425 3 hrs each; SPED 435 3 hrs. Approved 3 hr elective in professional vocational education.

**NOTE:** Endorsement in any of the vocational educational areas required.

**English as a 2nd Language.** (Grades K-12) 19-21 hrs: CURR 411/811 or 411A/811A or 411B/811B or 441 3 hrs; 413A/813A, 413B/813B, 413D/813D, 438 3 hrs ea; 497E/897E 3 hrs or 897E 1 hr; COMM 211 or 950 or 950B 3 hrs.

**Foreign Language.** (Grades K-6) (*must accompany an elementary education endorsement*) 38 hrs: 34 approved hours in the language to be taught; CURR 420 3 hrs, 397 1 hr.

**Foreign Language.** (Grades K-6) (*must accompany a foreign language 7-12 endorsement*) 7-12 foreign language endorsement plus 13 hrs: 30-46 approved hours in the language to be taught; CURR 811 3 hrs, 420/820 3 hrs, and 397 1 hr; EDPS 450/850, 454/854 3 hrs each.

**Gifted Education.** (Grades K-12) 18 hours: SPED 907J, 885 3 hrs each; EDPS 901, 902 3 hrs each; CURR 929 3 hrs; EDPS 896 or SPED 897J 3 hrs.

**NOTE:** Candidates must be admitted to the Teacher of the Gifted program and hold certificate endorsement in either elementary education (K-6) or secondary education (7-12).

**Vocational Special Needs.** (Grades 7-12) 15 hours: CURR 434 3 hrs; SPED 435, 436 3 hrs each; 6 hrs from SPED 201, 400, 437.

## Postbaccalaureate Teaching Endorsements

To pursue a post-baccalaureate endorsement, students must hold a valid teaching certificate.

**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) 44 hours: (Candidates must meet existing requirements for admission into a masters degree program in educational psychology. The student must have a valid teaching or special services certificate and must have two years of teaching experience. Students are expected to meet endorsement requirements as part of the degree program.) EDPS 850, 866, 868, 870, 964, 965 974, 975 3 hrs each, 997A, 997B 4 hrs each, 987A, 869, 854 or 863, 952 3 hrs each.

**NOTE:** To complete K-12 endorsement, student may add EDPS 851 and 997B.

**Counselor, School Guidance.** (Grades 7-12) 46 hours: (Candidate 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 student must have a valid teaching or special services certificate and two years of teaching experience.) EDPS 851, 866, 868, 870, 964, 965, 974, 975 3 hrs each, 997A 6 hrs, 997B 4 hrs, 987A, 869, 854 or 863, 952 3 hrs each.

**Educational Library Media Specialist.** (Grades K-12) 30 hrs: CURR 802, 839, 844A, 844B, 844D, 844E, 894 3 hrs each; two courses selected from CURR 859, 860, 880 or approved technology course; one course selected from CURR 811, 841 or approved alternative.

**Hearing Impaired.** (Grades P-12): Candidates must be admitted to a masters program. Candidates who have completed a preprofessional program (see "Endorsements" on page 321) must complete 37 hours: SPED 872 2 hrs, 873, 874, 875 3 hrs each, 896 1 hr, 897D 4 hrs, 976, 996A 3 hrs each or 899 6 hrs; SLPA 854, 884 3 hrs each; EDPS 859 or equivalent 3 hrs, guided electives 3-6 hrs, 884 3 hrs. Candidates who have not completed the preprofessional program must meet specific criteria and complete prerequisites: Individuals without certification in an area of special education must complete SPED 800, 802, 803 3 hrs each and 3 years successful teaching experience or SPED 804 3 hrs. Candidates must also complete course work within speech pathology and audiology: SLPA 250, 251, 271, 285 3 hrs each, 286 4 hrs, 472 3 hrs. The candidates must complete the following courses specific to the hearing impaired, 42 hours: SPED 802, 803, 873, 874, 875, 896 3 hrs each, 897D 6 hrs, 976, 996A 3 hrs each or 899 6 hrs; SLPA 854, 884, 956 3 hrs each; guided electives 6 hrs.

**Learning Disabled.** (Grades K-6) 36 hours: SPED 800 (prereq), 802, 803, 804, 806, 831, 908, 932, 987 3 hrs each; SLPA 887 and EDPS 850 3 hrs each; SPED 897L or 997E 3-6 hrs.

Supporting courses 3 hrs: Candidates select: CURR 808 or 811.

**Learning Disabled.** (Grades K-12) 37 hours: SPED 800 (prereq), 802, 803, 804, 831, 907L, 908, 932 3 hrs each, 897L 6 hrs, 497Z 1 hr; SLPA 887 3 hrs.

Supporting courses 6 hrs: Candidates with current K-6 endorsement select: EDPS 851, SPED 807 or 836. Candidates with current 7-12 endorsement select: EDPS 850, CURR 808, CURR 811 or SPED 806. Candidates with current K-12 endorsement: 6 hrs selected with adviser.

**Learning Disabled.** (Grades 7-12) 36 hours: SPED 800 (prereq), 802, 803, 804, 807 or 808, 831, 908, 932, 987 3 hrs each; SLPA 887, EDPS 851 3 hrs each; SPED 897L or 997E 3-6 hrs.

Supporting courses 3 hrs: Candidates select: SPED 808, 806 or SPED 835, 836.

**Mild/Moderate Disabilities.** (Grades K-9) 42 hours. Students must hold or be pursuing an elementary education endorsement plus the following courses: SPED 201, 302, 303, 304, 310, 315, 802, 803, 804, 831 or 841, 880 3 hrs each, 897M 6 hrs; SLPA 852 3 hrs.

**Pre-School Handicapped.** (Grades P-K) 30-43 hours: Prerequisites: Teaching Certificate Endorsement for special education or speech pathology OR elementary education or early childhood. EDPS 850 or SLPA 251 3 hrs; SPED 860, 861, 862, 863, 882, 960 3 hrs each, 897Q 6 hrs; CURR 903 3 hrs.

Applicants not holding valid teaching certificate endorsements in special education or speech pathology must complete the following core: SPED 800, 802, 803 3 hrs each, 981 2 hrs, 497Z 1 hr.

**NOTE:** There is also a masters program for initial teaching certification available. Contact Special Education and Communication Disorders at 472-2141.

**Reading Specialist.** (Grades P-12) 30 hours: CURR 811, 802, 838, 839, 841, 886, 986 3 hrs each; SPED 908 3 hrs; 6 hrs chosen from the following: CURR 817, 854, 890/990, 912, 921, 950, 951, 952, 953 3 hrs each; ENGL 957B 6 hrs or EDPS 989 3 hrs.

**Severely/Multiple Disabilities.** (Grades P-12) 40 hours: Prerequisites: Teaching Certificate in Special Education. Applicants not holding valid teaching certificate or endorsement in special education must complete the following core classes: SPED 800, 802, 803 3 hrs each; Requirements: SPED 862, 880, 881, 882, 960 3 hrs each, 980, 981 2 hrs each, 897P 8 hrs, 497Z/897Z 1 hr; SLPA 886/893D 3 hrs.

**NOTE:** There is also a masters program for initial teaching certification available. Contact Special Education and Communication Disorders at 472-2141.

**Visual Impairment.** (Grades P-12) 34 hours: SPED 800 3 hrs, 851, 852 6 hrs each, 853 7 hrs, 897V 6 hrs; guided electives in special education 6 hrs; braille proficiency.

**Vocational Special Needs.** (Grades 7-12) 15 hours: SPED 834, CURR 835, 836; and 6 hrs selected from the following: SPED 800, 831, 837, 986, 908, or suitable experience.

## Special Services Endorsements

**School Psychologist.** (Grades P-12): Candidate must hold a masters degree in educational or clinical psychology, education, or a related field. This is an educational specialist degree program. EDPS 870 or equivalent 3 hrs, 859 or equivalent 3 hrs, 860 or equivalent 3 hrs, 867, 869 3 hrs each, 950, 951, 952 4 hrs each, 957 16 hrs, 958A 6 hrs or 959 7 hrs, 987E, 987T, 850 or 851 3 hrs each, 854 or equivalent 3 hrs, 863, 868 3 hrs each; EDUC 800, 900B 2 hrs each; SPED 800 or equivalent 3 hrs.

**School Transition Specialist.** (Grades 7-12) 18 hours: SPED 800 or 834, 807, 808 or SPED 893J, 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 Teachers College. Candidates must have on file a program approved by the Department of Educational Administration.

**Curriculum Supervisor.** (Grades P-12): **ab**) 18 hours curriculum and instruction to be recommended by the adviser.

**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): **a**) 24 hrs educational administration including EDAD 800, 810 6 hrs each, 811 3 hrs, 981 3 hrs, and approved educational administration electives 6 hrs; **b**) curriculum and instruction 6 hrs pertaining to elementary level; **c**) support area other than educational administration or curriculum and instruction 3 hrs; **d**) approved elective 3 hrs.

**Principal, Middle Grades.** (Grades 4-9): **a**) 24 hrs educational administration including EDAD 800, 810 6 hrs each, 811 3 hrs, 981 3 hrs, and approved educational administration electives 6 hrs; **b**) curriculum and instruction 6 hrs pertaining to middle level; **c**) support area other than educational administration or curriculum and instruction 3 hrs; **d**) approved elective 3 hrs.

**Principal, Secondary.** (Grades 7-12) 36 hours: **a**) 24 hrs educational administration including EDAD 800, 810 6 hrs each, 811 3 hrs, 981 3 hrs, and approved educational administration electives 6 hrs; **b**) curriculum and instruction 6 hrs pertaining to secondary level; **c**) support area other than educational administration or curriculum and instruction 3 hrs; **d**) approved elective 3 hrs.

### 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.

**Supervisor of Speech-Language Pathology and Audiology.** (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 approved graduate hours in speech pathology and audiology taken within last six years. Masters degree and endorsement in speech pathology or audiology required and Certification of Clinical Competence (ASHA) required.

## 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 Teachers College. Advisement for all specialist programs is through the Department of Educational Administration.

**General Administration, Superintendent/Elementary, Middle Grades and Secondary Principal.** (Grades P-12): **a**) educational administration 39 hrs including EDAD 800, 810 6 hrs each, 811 3 hrs, 849 9 hrs, 981 3 hrs, and educational administration electives 12 hrs; **b**) curriculum and instruction 12 hrs pertaining to appropriate levels; **c**) supporting area other than educational administration or curriculum and instruction 3 hrs; **d**) approved electives 15 hrs.

**Curriculum Director.** (Grades P-12): **a**) 27 hrs educational administration including EDAD 800, 810 6 hrs each, 811, 837, 981 3 hrs each, and 6 hrs educational administration electives to be approved by adviser; **b**) 27 hrs curriculum and instruction to be recommended by the adviser; **c**) 6-9 hrs educational psychology including EDPS 850 or 851 or 854 and 858 or 973A 3 hrs each; and **d**) 6 hrs approved electives.

**NOTE:** Students must be admitted to both educational administration and curriculum and instruction and meet exit requirements for both departments.

**Director of Special Education Programs.** (Grades P-12) 66 hours: EDAD 800 6 hrs, 811, 981 3 hrs each, EDAD approved electives 12 hrs; EDAD/SPED 857, 858 3 hrs each; special education 36 hrs including 12 approved graduate hrs (at least 6 outside person's endorsement area) taken within past 6 years. Masters degree and endorsement in special education required. Two years successful teaching experience with persons with disabilities.

**Director of Speech-Language Pathology and Audiology.** (Grades P-12) 66 hours: EDAD 800 6 hrs, 811, 981 3 hrs each, EDAD approved electives 12 hrs; EDAD/SPED 857, 858 3 hrs each; speech pathology and audiology 36 hrs, including 12 approved hrs within past 6 years. Masters degree and endorsement in speech pathology or audiology and two years post-certification clinical experience and Certification of Clinical Competence (ASHA) required.

### Director of Vocational Education

**Programs.** (Grades 7-12): **a**) 27 hrs educational administration; **b**) 18 hrs vocational education; **c**) minimum 6 hrs supporting courses from two departments; **d**) minimum 12 hrs electives.

## Non-Endorsement Programs

Teachers College offers non-teaching degree programs in administrative resource management, community health education, and exercise science. Non-major options are available in athletic training and pre-physical therapy.

### Degree Program in Administrative Resource Management

This program is designed to prepare students for positions in administrative services in business, industry, government, or other areas. These positions may include responsibilities as office administrator, administrative assistant, executive secretary, word processing manager, office systems director, information systems manager, or administrative systems manager. Students may, by careful selection of elective courses, fulfill requirements for a Nebraska teaching certificate. In addition to the general requirements for the bachelor of science degree, students must complete the following courses:

ACCT 201, 202 3 hrs each  
BLAW 371 3 hrs

CURR 120, 222, 229, 323, 325, 334, 430 3 hrs each; 431 2 hrs; 410 3-6 hrs  
ECON 211, 212 3 hrs each  
FINA 360 **or** 361 3 hrs  
MNGT 320, 350, 360 **or** 361, 461, 465 3 hrs each  
MRKT 341 3 hrs

In addition to vocational and adult education and business administration courses, students may choose one or more of the following options:

**Human Resource Development Emphasis (9 hours):** EDPS 289 or 251 3 hrs; VAED 483, 484 3 hrs each.

### Information Systems Management

**Emphasis (7-9 hours):** CSCE 110 3 hrs, **or** 252A **or** 252G 1 hr each; MNGT 412, 437 **or** 457 3 hrs each.

### Administrative Office Management

**Emphasis (8 hours):** ECON 307 3 hrs; FINA 260 3 hrs; CURR 322B 2 hrs.

### Community Health Education

The program in community health education prepares professionals to make educational applications and interventions in a variety of non-school settings, wherever there are people and health needs.

Community health educators with bachelors degrees can be found working for state and local government, particularly health departments; voluntary health agencies; industry; hospitals and clinics.

The curriculum, which does not require teaching certification, leads to a bachelor of science in education degree with a major in community health. In addition to the Teachers College general requirements, students must complete the following:

BIOS 213 4 hrs  
 BRDC 226 or NEWS 282 3 hrs  
 COMM 311 3 hrs  
 CURR 359 2 hrs  
 EDPS 463 or 464 or appropriate course in educational psychology  
 FACS 416 3 hrs  
 HHPT 207 4 hrs  
 HLTH 201, 170, 212 3 hrs each; 255 5 hrs; 326, 351, 401, 403 3 hrs each; 409 1 hr; 427 6 hrs

### Exercise Science

The program is designed primarily for students who intend to pursue advanced degrees in an exercise science specialization or who are interested in professional programs in the health sciences (e.g., medicine, physical therapy, occupational therapy). Opportunities also exist for students interested in corporate fitness, cardiac rehabilitation, strength training, and other health/fitness-related programs.

In addition to the Teachers College general requirements, students must complete the following:

BIOC 321  
 BIOS 101, 101L, 213  
 CHEM 109, 110, 251, 253  
 EDPS 459  
 HHPT 207, 372, 484, 486, 488  
 HLTH 100, 170  
 NUTR 151, 350  
 PHYS 141

### Technical Education

The program in technical education prepares professionals to teach in areas which are viewed as vocational in technical community colleges. Students in this non-endorsement major must complete the Teachers College general requirements, a teaching major of at least 42 hours (which can be a specialization in any vocational technical field offered at the postsecondary level), electives, plus the following:

CURR 222, 229 3 hrs each  
 Industrial majors also take CURR 210 1 hr, 246 3 hrs

CURR 451M or equivalent 3 hrs  
 EDPS 251, 362 3 hrs each  
 EDUC 131 or CURR 331 or 431 3 hrs  
 CURR 452K, 414, 424, 434 or SPED 401B, CURR 445 3 hrs each

### Athletic Training Option

**This is neither a major nor a minor.** It is strongly recommended that the major be a teaching endorsement.

The National Athletic Trainers Association (NATA) provides guidelines for colleges and universities which provide a course of study leading to national certification. Students who complete the course of study are eligible to sit for the national certification examination. The program, which is neither a major nor minor in Teachers College, requires a minimum of nine courses plus 1500 hours of clinical experience.

Required courses include:

ATHT 145, 246, 445 3 hrs each; 446 1 hr  
 BIOS 213 4 hrs  
 HHPT 207 4 hrs; 372, 484 3 hrs each  
 HLTH 201 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 Teachers College general requirements, students must complete the following:

SLPA 101, 150, 250, 251, 271 (3 hrs each), 397A (1 hr), 455, 456 (4 hrs each), 421, 472, 473 (3 hrs each);  
 PSYC 463, 465 (3 hrs each)  
 One speech disorders course (SLPA 464 recommended) (3 hrs)  
 One language disorders course (SLPA 461 recommended) (3 hrs)

### 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 Health and Human Performance. 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. The Department of Health and Human Performance offers several courses of special interest to prephysical therapy students: HHPT 207, 372, 484, and HLTH 170.

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.

### Area of Specialization

**Multicultural Education.** It is possible to obtain multicultural education specialization along with a teaching endorsement. Basic requirements are as follows:

CURR 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 Dr. Teresita Aguilar or Dr. Ed Nemeth, Center for Curriculum and Instruction.

### 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--EdD, 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  
 Vocational and Adult Education--MA, MEd, 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.

**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 Teachers College

**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.

## Center for Curriculum and Instruction (CURR)

**Chair: Professor Elizabeth A. Franklin**

**Professors:** Andrews, Arth, Brooks, Egbert, Garcia, Holder, Franklin, Kilgore, Sawyer

**Associate Professors:** T. Aguilar, Bonnstetter, Fowler, Hostetler, Meyer, Moeller, Nemeth, Sesow, Spomer, Walter, Wilson

**Assistant Professors:** Buck, Fisher, Heaton, Milligan, Ollerenshaw, Pataray-Ching, Phillips, Poland, Swidler, Wunder

**Lecturers:** Goodrich, Lopez, Sievers

### 101. Mechanical Drafting (3 cr)

Develop expertise in the use of drafting equipment, geometric construction, orthographic projections, dimensioning, and the application of ANSI standards.

### 102. Architectural Drafting (3 cr) Prereq: CURR 101.

Basic skills in the construction of architectural drawings, including plot plans, elevation view, wall and floor sections, and roof construction. Architectural modeling.

### 103. Computer-Aided Drafting (3 cr) Prereq: CURR 102.

Applying computer commands to create two-dimensional engineering and architectural drawings.

### 104. Wood Technology (3 cr) Lec, lab.

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 (3 cr) Lec, lab.

Forming, molding, separating and fabricating of industrial materials.

### [ES] 120. Basic Business Communication (3 cr)

Principles of written professional communication, emphasizing language basics, functional documents and readability.

### 197. Professional Practicum Experiences (1-4 cr)

Guided participation in schools and/or selected agencies offering programs for children/youth. An accompanying seminar is included in which the professional role of the teacher is discussed.

#### A. Elementary Level

#### Q. Middle Level

### [ES] 201. Electricity/Electronics (3 cr)

Introduction to electricity/electronics and its application to industry, including AC and DC circuit design, construction and analysis.

### 203. Automotive Technology (3 cr)

Automotive technology and the equipment related to automotive repairs including the design, theory and operation of automotive systems through laboratory activities.

### 204. Machine Tool Technology (3 cr) Prereq: CURR 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 (3 cr)

Basic knowledge and skill in both oxygen-acetylene welding and cutting, and electrical arc welding.

### 206. Power and Energy Technology (3 cr)

Introduction to power and energy technology.

### 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.

### 222. Technology Concepts (3 cr)

Current technology for teachers and trainers.

### 229. Advanced Information Technology (3 cr)

Design, concepts and applications of computer-aided publishing.

**242. Construction Technology (3 cr) Prereq: CURR 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 (3 cr) Lec, lab. Prereq: CURR 104.

Theory and practice of industrial processing of wood and synthetic materials. Structure and management of manufacturing industries.

### [ES][IS] 246. Modern Industries (3 cr)

Survey of the industrial enterprise. Manufacturing and distribution of goods. Overview of the world of work.

**259. Instructional Technology (2 cr) Prereq: Completion of the technology competencies listed in the first phase of the Teachers College Pre-Professional Education Requirement.** Introduction for pre-service teachers (K-12) to instructional technology theory, designing educational materials, and effective integration of technology into the curriculum.

### 297. Professional Practicum Experiences II (EDPS, HHPT, HLTH, SPED 297) (1-6 cr, max 24) Fld. Prereq: CURR 197 or permission. *An accompanying seminar is included where the professional role of the teacher is discussed.*

Guided participation and/or observation in schools and/or agencies offering programs for children and/or youth.

#### A. Elementary (1-4 cr, max 4)

#### B. Secondary (1-4 cr, max 4)

#### J. Secondary Business Education (1-4 cr, max 4)

#### M. Secondary Industrial Education (1-4 cr, max 4)

#### O. Secondary Marketing Education (1-4 cr, max 4)

#### Q. Middle Level (1-4 cr, max 4)

**300. Industrial Experience (1-6 cr) Prereq: Permission.** Occupational experience or supervised occupational experience in conjunction with directed observation to meet vocational industrial teacher certification requirements.

### 301. Industrial Graphics (3 cr)

Printing, desktop publishing, silk screening, and photography.

**302. Children's Literature (3 cr) Prereq: Admission to the Elementary Teacher Education Program; CURR 197, 297A, 297B, and 351; EDPS 362.**

Wide reading in the broad field of children's literature. Survey of various genres; kinds of books; authors, poets, illustrators; historical development; contemporary topics and trends. Principles and practices in selection and adaptation of literature to the needs of the child. Presentation and instructional methodology.

### 304. Nursery and Pre-kindergarten Education (2-3 cr)

Prereq: EDPS 362, CURR 197 (1 cr) or permission.

Curriculum materials and equipment; analysis of physical, mental, and emotional development. Records and participation with young children. Parent-teacher relationships.

### 306. Teaching Art in the Elementary School (3 cr)

Prereq: Admission to Elementary Teacher Education Program; CURR 197, 297A, 297B, and 351; EDPS 362; AHIS 117 or equivalent; CURR 302, 307, 308, 315, and 397A.

The guidance of art through the elementary school in accordance with the growth and development of the child.

Acquaintance with objectives, materials, and methods for meaningful teaching of art.

### [IS] 307. Teaching Social Studies in the Elementary School (3 cr) Prereq: Admission to the Elementary Teacher Education Program; CURR 197, 297A, 297B, and 351; EDPS 362; 6 hrs social sciences.

Emphasizes the role, content, materials, and trends of social studies in childhood education; selection and use of learning experiences; development of lesson plans and/or teaching unit.

### 308. Teaching Mathematics in the Elementary School (3 cr) Prereq: Admission to the Elementary Teacher Education Program; CURR 197, 297A, 297B, and 351; EDPS 362; MATH 200 and 201.

Scope, content, and organization of the mathematics curriculum; development, use, and sources of instructional materials; teaching procedures.

### 310. Educational Program for Kindergarten Children (2 cr) Prereq: Admission to the Elementary Teacher Education Program; FACS 270 and EDPS 362, or permission.

Recent developments in education of children and their bearing on the selection and guidance of appropriate activities and materials for the kindergarten. Related functions of home, school, and other educational agencies.

### [IS] 311. Teaching Reading in the Elementary School (3 cr) Prereq: Admission to the Elementary Teacher Education Program; CURR 197, 297A, 297B, and 351; EDPS 362.

Objectives, scope, content, and organization of the reading curriculum; methods of effective teaching; development, use, and sources of instructional materials.

**[IS] 313. Teaching Language Arts in the Elementary School (3 cr) Prereq: Admission to the Elementary Teacher Education Program; CURR 197, 297A, 297B, and 351; EDPS 362.**

Theory and practice of teaching the language arts in the elementary school. Selection, construction, and use of instructional materials for and with elementary children.

**[IS] 315. Teaching Science in the Elementary School (3 cr) Prereq: Admission to the Elementary Teacher Education Program; CURR 197, 297A, 297B, and 351; EDPS 362; two courses in science.**

Role, trends, content, and materials of science in childhood education. Development of science experiences for use with children.

**322. Information Processing and/or Electronic Keyboarding (2 cr) Prereq: Keyboarding competency. *Letter grade only.***

Techniques and skills for the improvement of keyboarding instruction in middle and secondary schools.

### 323. Information Management Systems (3 cr)

Instructional multi-media hardware and software.

### 325. Managerial Communication (3 cr)

Written, oral and non-verbal communication; management of meetings; communications styles; leadership; human relations; listening; interviewing; and ethics.

**[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 [331x]. Cultural Foundations of American Education (3 cr) Prereq: Sophomore standing.**

Selected educational issues from the perspective of history, sociology, and philosophy. Is team taught with lectures, discussions, and essay examinations.

### 334. Advanced Communication Technologies (3 cr)

Prereq: CURR 222. *Letter grade only.* Telecommunications technologies.

### 340. Advanced Machine Woodworking (3 cr) Prereq: CURR 243.

Continuation of CURR 243. Machine woodworking on a major individual project. Includes wood finishing and maintenance of hand and power tools.

### 346. Advanced Modern Industries (3 cr) Prereq: CURR 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. Human Technologies in Teaching (3 cr) Prereq: Admission to the Elementary or Middle Level Teacher Education Program.**

Specific teaching behaviors such as wait time, feedback, pacing, scaffolding, and behavior management along with an approach to planning and teaching which is constructivist. Teaching strategy of cooperative learning.

#### A. Elementary Level

#### Q. Middle Level

**397. Professional Practicum Experiences III (EDPS, SPED 397) (1-10 cr, max 10) Prereq: Admission to Teacher Education Program.**

Guided observations and/or clinical experiences in school 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.***

**B. Elementary Level (1-10 cr) *An accompanying seminar is included where the professional role of the teacher is discussed.***

#### I. Secondary Art (1-10 cr)

#### J. Secondary Business Education (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)

#### V. 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: CURR 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** (MUED 403) (1-2 cr) Parallel: Student teaching (CURR 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.

**406/806. Improvement of Instruction in Elementary School Art** (3 cr) Prereq: 12 hrs education including CURR 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.

**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)
- C. **ESL: Assessment** (1-3 cr)
- D. **Special Topics in Teaching ESL** (1-6 cr)

**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** (1-3 cr)

Analysis of the 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; Teachers College 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. History of Education in the United States** (3 cr)

Social, economic, political, and religious factors as they relate to the development of American public schools and ideals of democracy.

**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.

**[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.

**440/840. Sociology of Education** (3 cr) Prereq: 12 undergraduate hrs, including 3 hrs educational psychology and 3 hrs educational methods.

Description and explanations of cultural values as they relate to education, social-class systems and education, and role behavior of students and educators.

**441/841. Content Area Reading** (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. Education and Business Information Systems** (3 cr)

Prereq: CURR 334.

Planning end-user computer systems.

**444. Advanced Education and Business Information Systems** (2 cr) Prereq: CURR 443.

Managing end-user computer systems.

**445. Managing Industrial Education Laboratory** (3 cr)

Prereq: CURR 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) Prereq: Admission to Teacher Education Program.

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 transescent students. Experimental programs and methods for improving student continuous progress and career exploration.

**449. Teaching the Transescent 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.

**[IS][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.

**451J. Business Education** (3-4 cr) Prereq: CURR 323 and 452K.

Objectives, teaching materials, selection and organization of subject matter, and methods of instruction and evaluation in business subjects.

**451M. Industrial Education** (3 cr) Prereq: CURR 452K.

and parallel CURR 397M.

Objectives, curricula, methodology, evaluation, planning, classroom management and course organization.

**451O. Marketing Education** (3 cr) Prereq: CURR 452K. Objectives, teaching materials, selection, and organization of subject matter, and methods of instruction and evaluation in marketing.

**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 grade of C+ (2.5) 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 CURR 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.

**[IS] N. Secondary Language Arts** Prereq: As listed above including ENGL 457, 476 and CURR 438, with a grade point average of 3.0 (B) or better in subject-area.

Theoretical issues in the teaching and learning of writing, language, and literature.

**[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 CURR 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.

**452K. Career and Technical Education** (2-3 cr)

Procedures for writing, selecting and organizing subject matter for instruction.

**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 a grade of C+ (2.5) 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 CURR 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.

**[IS] N. Secondary Language Arts** Prereq: As listed above and parallel with CURR 397.

Planning, teaching, and evaluating language arts lessons for diverse learners.

**[IS] P. Secondary Mathematics** Prereq: As listed above and CURR 451P/851P with a grade of "C+" or better.

Conceptualizing the 7-12 curriculum through multi-media 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] V. Secondary Science** Prereq: As listed above and CURR 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. Middle Level Professional Methods** (1-14 cr) Prereq: Admission to the Teacher Education Program. Within the content areas of art, foreign language, language arts, mathematics, reading, science, and social science (I, R, N, P, T, V, & W) development of competence in planning, teaching, classroom management and assessment. The scope, content, and organization of curriculum as well as instructional materials.

**454/854. Literary Response and Analysis** (3 cr) Role of the construction of literary meaning and implications for English and/or language arts classrooms.

**480/880. Instructional Computing in Education** (2-3 cr) Survey and analysis of types of educational applications of computers and general characteristics of each. Research and related literature on learning, teaching, curriculum, programmed instruction, and evaluation relevant to computing analysis and comparison of available authoring languages.

**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** (VAED 496/896) (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** (HHPT, HLTH 497; SPED 497Y and 497Z only) (1-14 cr, max 14) Fld. Prereq: Admission by application; completion of all required methods courses and practice with minimum grades of C+ (2.5) per course. (See "Admission to Student Teaching" on page 317.) *P/N 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)
- C. **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, max 10)
- W. **Secondary Social Science** (1-10 cr, max 10)
- Y. **Mainstreaming** (1 cr)
- Z. **Multicultural** (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,VAED 805) (1-3 cr)

**808. Improvement of Instruction in Elementary School Mathematics** (3 cr) Prereq: CURR 308 or equivalent.

**809. Improvement of Instruction in Elementary School Social Studies** (3 cr) Prereq: 12 hrs education including CURR 307 or permission; teaching experience or successful completion of student teaching.

**\*810. Instructional Theory in Physical Education** (HHPT 810) (3 cr)

**812. Improvement of Instruction in Elementary School Science** (3 cr) Prereq: 12 hrs education including CURR 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,VAED 815) (1-3 cr)

**817. Emerging Literacy** (3 cr) Prereq: Elementary endorsement.

**\*822. Principles and Problems in Secondary School Social Studies** (3 cr) Prereq: CURR 451W.

**833. Comparative Education** (3 cr)

**\*835. Ethnic Minorities and American Education** (3 cr)

**836. Latin American Education** (3 cr) Prereq: 12 hrs education, social sciences, or Latin American Studies; or permission.

**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 CURR 446.*

**\*848. The Curriculum of the High School** (3 cr) Prereq: CURR 800 and 801.

**\*849. Instruction of the Transcendent Student** (3 cr) *Not open to students with credit in CURR 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 CURR 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** (MUED 870) (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** (3 cr) Prereq: CURR 811 or 841; EDPS 858 or permission.

**890. Workshop Seminar**

**893. Workshop Seminar**

**897I. Student Teaching: Gifted and Talented** (EDPS, SPED 897I) (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.

## Education (EDUC)

**[ES] 131. Foundations of Modern Education** (3 cr) Problems approach to selected historical and contemporary issues in analyzing the role and function of the school in American society. Skill development and orientation to teaching as a career.

**800. Foundations of Educational Research** (3 cr) Prereq: Prior or parallel enrollment in EDPS 859, statistical methods, or completion of its equivalent.

Refer to the Graduate Bulletin for 900-level courses.

## Educational Administration (EDAD)

**Chair: Associate Professor Larry Dlugosh**

**Professors:** Grady, Seagren, Stick, Wendel

**Associate Professors:** Benning, Bryant, Dlugosh, Isernhagen, LaCost, Uerling

**Adjunct Professors:** Christensen, Griesen, Osborne, Stahl

**Courtesy/Dual:** Arth, Sesow

**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** (CURR \*868) (3 cr)

**\*813. Administration in Physical Education and Athletics** (HHPT 813) (3 cr) Prereq: 18 hrs physical education and recreation including HHPG 810.

**\*830. Administrative Theory in Educational Organizations** (3 cr)

**\*833. Educational Finance** (3 cr)

**\*834. Administration of Adult Education Agencies** (VAED \*864) (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)

Refer to the Graduate Bulletin for 900-level courses.

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)

**874-875. Torts** (LAW 503-504) (6 cr, 3 cr sem)

Refer to the Graduate Bulletin for 900-level courses.

## Educational Psychology (EDPS)

**Acting Chair: Associate Professor Toni Santmire**

**Professors:** Bruning, Creswell, Gutkin, Kiewra, Keller, Moshman, Plake, Sheridan, Williams

**Associate Professors:** Bandalo, DeAyala, Impara, Piersel, Santmire, Schraw, Sodowsky

**Assistant Professors:** Bahns, Caldwell, Delgado, Graham, Hanson, Horn, Mickelson, Nickoletti, Swearer

**097. Mini-Seminar** (0 cr) *EDPS 097 is graded P/N 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.

**[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.

**237. Introduction to Human Relations in Education** (ALEC 237) (2 cr)

Introduction to several approaches to human relations in education.

**[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.

**[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** (CURR, HHPT, HLTH, SPED 297) (1-6 cr) Fld. Prereq: CURR 197 or permission. *An accompanying seminar is included where the professional role of the teacher is discussed.*

Guided participation and/or observation in schools and/or agencies offering programs for children and/or youth.

**337. Principles of Interpersonal Relationships in Education** (2-3 cr) Prereq: Sophomore standing; EDPS 237. Interpersonal relationships as they affect education. Third hour directed observation and case studies.

**[IS] 362 [362x] [362f]. Learning in the Classroom** (3 cr) Prereq: EDPS 261 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 Experiences III** (CURR, SPED 397) (1-10 cr, max 10) Prereq: Admission to Teacher Education Program.

For course description and sub-topics, see CURR 397.

**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.

**457. Learning and Motivation Principles for Secondary Teaching** (3 cr)

Learning and motivation principles for instruction and assessment at the secondary level.

**[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.

**A. Basic Practices in Counseling and Personnel Services** (2 cr) Prereq: Permission.

**B. Special Practices for Handicapped Children and Youth** (1 cr) Prereq or parallel: EDPS 465A/865A.

**D. Special Practices for Exceptionally Talented and Gifted** (1 cr) Prereq or parallel: EDPS 465A/865A.

**E. Special Practices in the Elementary School** (1 cr) Prereq or parallel: EDPS 465A/865A.

**J. Special Practices in Junior and Senior High School** (1 cr) Prereq or parallel: EDPS 465A/865A.

**K. Special Practices for Vocational Education/Development Programs** (1 cr) Prereq or parallel: EDPS 465A/865A.

**L. Special Practices for Community Helpers Working With Adults** (1 cr) Prereq or parallel: EDPS 465A/865A.

**469/869. Psychopathological Disorders of Childhood and Adolescence** (3 cr)

Investigation of the genesis, course, classification, and treatment of function and organic pathologies found in children and adolescents.

**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** (FACS, 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** (ANTH, GEOG, HIST, MODL, POLS, SOCI 478/878) (3-6 cr, max 6) Prereq: Junior standing and permission. For course description, see ANTH 478/878.

**481/881. Psycho-Pharmacology of Addiction** (3 cr) Psychological and pharmacological aspects of drug and alcohol use and abuse. Review of the field emphasizes aspects important for the chemical dependency counselor. Physiology of drug use, major drugs of abuse, and psycho-active medications.

**482/882. Treatment Methods and Modalities in Chemical Dependency** (3 cr) Common and not so common approaches to treating chemical dependency (e.g., in-patient vs. out-patient treatment, halfway houses, Alcoholics Anonymous). Alcohol and drug abuse sub-populations reviewed, with consideration to their needs in treatment.

**490. Workshop Seminar**

**493. Workshop Seminar**

**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.

**\*830. Measurement and Evaluation in Physical Education** (HPT 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)

**867. Roles and Functions in School Psychological Services** (3 cr)

**\*868. Multi-Cultural Counseling** (3 cr) Prereq: EDPS 866 or comparable course or permission.

**\*890. Workshop Seminar** (1-12 cr, max 12)

**\*893. Workshop Seminar** (1-12 cr, max 12)

**897. Student Teaching: Gifted and Talented** (CURR, 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.

## Department of Health and Human Performance

**Chair: Associate Professor William Murphy**

**Professors:** Ansorge, Johnson, Newman, Sime

**Associate Professors:** Evans, Housh, Martin, Murphy, Petrakis, Scheer, Schmidt, Wandzilak, Weissinger

**Assistant Professors:** Bahls, Callahan, Doutis, Howard, Rudy, Tuning, Ward

## Basic Instruction (Activities) and Athletic Practice Courses (ATHP)

Unless otherwise noted, all courses are open to men and women students and are offered on a P/N basis only.

**Activity Classes.** (1 cr) Prereq for levels II, III, IV: Having taken the preceding level or having had previous experience in this area and permission.

**Athletic Practice Courses.** (1 cr) Prereq: Being a member of the varsity team in that sport. Students eligible to enroll in athletic practice or conditioning courses may earn a maximum of 4 hrs of credit toward graduation under the following guidelines: 1) no more than 1 hr of credit in athletic practice in a semester; 2) no more than 2 hrs of credit in any one sport; 3) no more than 2 hrs credit in athletic practice conditioning.

## Aquatics

**100G, 110G. Swimming I, II, III, IV**

**100N, 110N, 120N. Aerobic Swimming I, II, III**

**100P, 110P, 120P, 130P. Athletic Practice: Swimming**  
Prereq: By permission only.

**120J. Lifeguard Training (1 cr)**

## Combatives (COMB)

**101D, 111D. Karate I, II, III, IV**

**101J. Kendo**

**101P, 111P, 121P, 131P. Athletic Practice: Wrestling**  
Prereq: By permission only.

## Conditioning

**102D, 112D, 122D. Weight Training I, II, III, IV**

**102E, 112E. Running Aerobics I, II, III, IV**

**102P, 112P, 122P. Conditioning**

**103N. Aerobic Dance.**

## Fitness (FITN)

**102B. Physical Fitness I (1 cr)**

Assessment of current life-style habits, study information related to healthful living behaviors, and design and practice appropriate health behaviors, with emphasis on physical fitness.

**112B. Physical Fitness II (1 cr)** Prereq: FITN 102B, or HLTH 100 or 201.

Continuation of the development of the fitness component designed in FITN 102B, study additional elements of physical and mental health, and design and implement health behavior change programs.

**122B. Physical Fitness III (1 cr)** Prereq: FITN 102B or 112B, or equivalent.

Risk factors and appropriate health behaviors related to drug and substance abuse, sexually transmitted diseases including AIDS, and teen pregnancy.

## Gymnastics (GYMN)

**104P, 114P, 124P, 134P. Athletic Practice: Gymnastics**  
Prereq: By permission only.

## Individual and Dual Activities (INDV)

**105B, 115B. Bowling I, II**

**105D, 115D. Golf I, II**

**105P, 115P, 125P, 135P. Athletic Practice: Golf** Prereq: By permission only.

**105Q, 115Q, 125Q, 135Q. Athletic Practice: Track**  
Prereq: By permission only.

**105R, 115R, 125R, 135R. Athletic Practice: Cross Country** Prereq: By permission only.

## Outdoor Education (ODED)

**103A. Climbing I**

**107G. Cycling I, II, III**

## Racquet Sports (RACS)

**108E, 118E. Tennis I, II, III**

**108K. Racquetball I, II, III**

**108P, 118P, 128P, 138P. Athletic Practice: Tennis** Prereq: By permission only.

## Team Sports (TEAM)

**109P, 119P, 129P, 139P. Athletic Practice: Basketball**  
Prereq: By permission only.

**109Q, 119Q, 129Q, 139Q. Athletic Practice: Football**  
Prereq: By permission only.

**109R, 119R, 129R, 139R. Athletic Practice: Baseball**  
Prereq: By permission only.

**109T, 119T, 129T, 139T. Athletic Practice: Volleyball**  
Prereq: By permission only.

**109U, 119U, 129U, 139U. Athletic Practice: Softball**  
Prereq: By permission only.

**109V, 119V, 129V, 139V. Athletic Practice: Soccer**  
Prereq: By permission only.

## Athletic Coaching (ATHC)

**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 participation; 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.

**313. Coaching of Gymnastics (2 cr)**

Philosophy and organization involved in coaching gymnastics. Conditioning, skills analysis, and judging of gymnastics events.

**314. Coaching of Softball (2 cr)**

Philosophy of coaching, analysis of skills, strategy, selection of team members, rules, and officiating of softball.

**315. Coaching of Swimming and Diving (2 cr)**

Philosophy of coaching, conditioning, basic hydrodynamics, skill analysis, organization of practice and training techniques as applied to swimming and diving.

**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.

**319. Coaching of Wrestling (2 cr)**

Wrestling theory and practice of various holds and counters. Coaching, officiating, and training. Amateur rules and participation in contests.

**494. Practicum in Coaching (1-3 cr)** Prereq: Permission.

Practical experience in coaching in youth sports and interscholastic athletic programs.

## 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)** Prereq: HHPT 207.

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, HHPT 207, and 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.

**345. Evaluation of Athletic Injuries (4 cr)** Lec, lab. Prereq: ATHT 246, HHPT 207, and 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.

**445/445. 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.

## Health Education (HLTH)

### [ES][IS] 100. Healthy Lifestyles (3 cr)

Application of theory related to reducing personal health risk factors, achieving physical fitness, managing stress, and using leisure wisely.

### 170 [170x]. 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 [201x]. 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.

### 212. Principles of Community Health (3 cr)

Nature, extent, and causes of basic community health problems and consideration of the elements of public health programs and community structure in the possible solution of these problems.

### 230. Peer Health Education (1-5 cr) Prereq: Permission.

Role of the health aides 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.

### 255. Special Topics in Health (5 cr) Prereq: HLTH 201 or permission.

Series of minicourses devoted to specific content areas of health:

- A. Consumer Health
- E. Substance Abuse
- G. Sex Education
- J. Women's Health Care
- N. Stress and Tension Reduction

### 297. Professional Practicum Experiences II (CURR, EDPS, HHPT, SPED 297) (1-6 cr) Fld. Prereq: CURR 197 or permission. *An accompanying seminar is included where the professional role of the teacher is discussed.*

Guided participation and/or observation in schools and/or agencies offering programs for children and/or youth.

### 322. Health Education Methods and Materials (4 cr) Prereq: HLTH 212.

Theory, concepts, and principles of health education and specific methods and techniques that may be applied.

### [IS] 326. Epidemiological Procedures for Community Health (3 cr) Prereq: HLTH 212 or permission.

Classical epidemics, evolution of epidemiological principles and techniques, and analysis of selected types of diseases or conditions. Statistical procedures necessary for simple analysis of epidemiological data.

### [IS] 351. School Health Programs (3 cr) Prereq: HLTH 201 or permission.

Organization, development, and legal aspects of school health programs. The total curriculum for health education, including the health education contribution of health instruction, health services, and school environment.

### [IS] 401. Health Behavior (3 cr) Prereq: HLTH 201, 212, 326, 351.

Advanced study of social, psychological, and cultural factors that influence the adoption, maintenance, and modification of health behaviors in communities.

### 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 worksite health promotion programs.

### 409. Senior Seminar (1 cr) Prereq: Senior standing.

Analysis of career opportunities, professional organizations, and sources of technical assistance and program funding. How to use previous educational experiences, theory, and classroom learning in developing individual career plans.

### 427. Field Experience in Health Education (1-6 cr)

Prereq: Health education major and permission.

Using the community as a laboratory the student observes, participates in, and practices the processes of public health and health education.

**497. Student Teaching** (CURR, HHPT 497; SPED 497Y and 497Z only) (1-14 cr, max 14) Fld. Prereq: Admission by application; completion of all required methods courses and practica, with minimum grades of C+ (2.5) per course. (See "Admission to Student Teaching" on page 317.) *P/N only.* For course description, see CURR 497.

- K. Secondary Health (1-10 cr)
- Y. Mainstreaming (1 cr)
- Z. Multicultural (1 cr)

**\*802. Medical Aspects of Rehabilitation** (3 cr) Prereq: Permission.

**\*804. Health Promotion in Instructional Settings** (3 cr) Prereq: HHPG 870 and 803.

**\*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.

**890. Workshop Seminar**

**893. Workshop Seminar**

**896. Independent Study** (1-6 cr) Prereq: Permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Physical Education (HHPT)

### 179. History and Issues in Physical Education (3 cr)

Introductory course that ties together historical and current issues related to physical education. Practicum experiences include observing and coding teacher and student behavior in a variety of physical education settings.

### 201. Leisure in American Life (3 cr)

Social and psychological influences on free time use in America.

### 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.

**[ES] 207. Human Anatomy** (4 cr) Prereq: BIOS 101 and 101L recommended.

Gross human anatomy involving the major systems of the body. Skeletal, muscular, nervous, circulatory, and respiratory systems.

### 275. Elementary Physical Education Curriculum (4 cr)

Prereq: FACS 160 and HHPT 281.

Objectives, scope, content, and organization of the elementary school physical education curriculum. Experiences in teaching mini-lessons to peers.

### [ES][IS] 279. Psychosocial Aspects of Physical Activity and Sport (3 cr)

Important sociological and psychological considerations that are related to physical activity and sport within the world today.

### 281. Motor Development–Young Child (3 cr) Prereq: FACS 160.

Sequence of development of fundamental motor patterns and perceptual motor skills; factors influencing this development; assessment and evaluation; methods and activities for developing these skills; and development of movement programs for early childhood. Lab experiences in observing, planning, and conducting movement experiences with young children.

### 288. Motor Performance Laboratory (1-3 cr)

To develop skill competence in selected physical activities so student is able to demonstrate movement patterns in a variety of sports and activities in a physical education setting.

### 297. Professional Practicum Experiences II (CURR, EDPS, HLTH, SPED 297) (1-6 cr) Fld. Prereq: CURR 197 or permission. *An accompanying seminar is included where the professional role of the teacher is discussed.*

Guided participation and/or observation in schools and/or agencies offering programs for children and/or youth.

### 297A. Elementary Methods Practicum (1 cr) Prereq:

Parallel with HHPT 321.

Develops competencies that the pre-service teacher needs in order to effectively teach elementary school physical education. Students implement generic and specific teaching and management skills as they teach physical education to 10 or less students in an elementary school setting.

### 297B. Secondary Methods Practicum (1 cr) Prereq:

Parallel with HHPT 321.

Develops competencies that the pre-service teacher needs in order to effectively teach secondary school physical education. Students implement generic and specific teaching and management skills as they teach physical education to 10 or less students in a secondary school setting.

**321. Physical Education Teaching Methods** (3 cr) Prereq: Admission to the Teacher Education Program; for grades K-6 PE majors HHPT 275, 372 and 377; for grades 7-12 PE majors HHPT 288, 372, 377 and 388; for grades K-12 PE majors HHPT 275, 288, 372, 377 and 388.

Objectives, basic teaching techniques, and organization of elementary and secondary school physical education programs.

### [ES] 330. Measurement and Evaluation in Exercise Science and Physical Education (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; and grading students.

### 372. Biomechanics of Human Movement (3 cr) Prereq:

Junior standing; HHPT 207; or permission.

Anatomical and mechanical principles as related to human movement.

### 377. Acquisition of Motor Skills (3 cr) Prereq: Junior standing; for grades K-6 PE majors HHPT 207 and 281; for grades 7-12 PE majors HHPT 207, 288 and 388; for grades K-12 PE majors HHPT 207, 281, 288 and 388.

Lecture, discussion, and laboratory opportunities to better understand human behavior (K-12) during the acquisition and retention phases of motor skill performance. Learning theories, as they relate to motor skill performance. Novel motor skills utilized in the laboratory where students are afforded first-hand opportunities to isolate and study various learning and/or performance variables.

### 380. Physical Education for the Elementary School (2 cr) *Not open to physical education majors.*

Curriculum planning and techniques and materials of the physical education program progressively adapted to the various elementary grades.

### 383. Theory of Adaptive Physical Education (3 cr)

Prereq: Junior standing and HHPT 207 or permission. Developmental, modified, and therapeutic applications of movement activities. Motor implications of handicapping conditions.

### 388. Motor Performance Laboratory II (3 cr) Prereq:

Admission to the Teacher Education Program and HHPT 288. Students demonstrate advanced movement patterns in a variety of sports and activities in a physical education setting.

### 397. Health and Physical Education Practicum (1-3 cr)

Faculty and practicing teacher supervision of hands-on instruction in school-based settings to ensure effective student demonstration of lesson planning, classroom management, instruction, and related decision making skills recommended by current teacher effectiveness theory related to either K-6 physical education, secondary health and physical education, or adaptive physical education.

**A. Elementary** (2 cr) Prereq: HHPT 275 & 281; FACS 160 or EDPS 250.

**B. Secondary** (2 cr) Prereq: HHPT 288, 321, 372, 377, 388.

**D. Adaptive Physical Education** (1 cr) Must be taken parallel with SPED 401B.

**E. Community Health Practicum in a Community Setting** (1 cr) Must be taken parallel with CURR 451V.

### 484/884. Physiology of Exercise (BIOS 484/884) (3 cr)

Prereq: 12 hrs biological sciences including BIOS 213 or equivalent and HHPT 207 or permission.

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: HHPT 484 and EDPS 459.

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.

### 497. Student Teaching (CURR, HLTH 497; SPED 497Y and 497Z only) (1-14 cr, max 14) Fld. Prereq:

Admission by application; completion of all required methods courses and practica, with minimum grades of C+ (2.5) per course. (See "Admission to Student Teaching" on page 317.) *P/N only.*

For course description, see CURR 497.

**E. Elementary Physical Education** (1-10 cr)

**U. Secondary Physical Education** (1-10 cr)

**Y. Mainstreaming** (1 cr)

**Z. Multicultural** (1 cr)

**488. Practicum in Exercise and Health Behavior Planning** (3 cr) Prereq: HHPT 486. Practical experience in exercise testing and analysis and planning of health and fitness programs for individuals.

**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.

**\*805. Interpretations of Physical Education** (3 cr)

**\*810. Instructional Theory in Physical Education** (CURR 810) (3 cr)

**\*813. Administration in Physical Education and Athletics** (EDAD \*813) (3 cr)

**\*820. Motor Learning** (3 cr)

**\*830. Measurement and Evaluation in Physical Education** (EDPS 830) (3 cr)

**\*883. Physical Education for the Atypical Child** (3 cr)

**\*885. Advanced Kinesiology** (3 cr) Prereq: HHPT 372 or HHPG 884 and permission.

**887. Theory and Assessment of Exercise and Health Behavior** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Seminars, Research, and Specialized Study

**399. Independent Study** (1-6 cr) Prereq: Permission.

**490. Workshop Seminar** (1-12 cr, max 12)

**493. Workshop Seminar** (1-12 cr, max 12)

**496/896. Independent Study** (1-6 cr) Prereq: Permission.

**\*890. Workshop Seminar** (1-12 cr, max 12)

**\*893. Workshop Seminar** (1-12 cr, max 12)

**\*899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Special Education and Communication Disorders

**Chair: Professor J. E. Berenthal**

**Professors:** Berenthal, Beukelman, Decker, Epstein, Healey, Vasa

**Associate Professors:** Allinder, Carrell, Erickson, Hux, Maag, Marvin, Peterson, Reid, Sanger, Wright

**Assistant Professors:** Boney, Cress, Deshayes, Ehlers, Menefee, Ramsey, Scheffler, Siegel-Causey, Steckelberg

**Instructors:** Brown, Davis, Eccarius, Farrand, Fitch, Hustad, Morehouse, Scott, Spalding, Stogsdill, Weiss

## Special Education (SPED)

**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.

**202. Special Education Process and Programming** (3 cr) Prereq: SPED 201 or equivalent.

Processes involved in providing services to exceptional learners; characteristics of exceptional learners; issues in referral, identification, placement, and programming.

**297. Professional Practicum Experiences II** (CURR, EDPS, HHPT, HLTH 297) (1-6 cr) Fld. Prereq: CURR 197 or permission. *An accompanying seminar is included where the professional role of the teacher is discussed.*

Guided participation and/or observation in schools and/or agencies offering programs for children and/or youth.

**[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.

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.

**315. Literacy Instruction for Students with Diverse Needs** (3 cr) Prereq: SPED 201.

Gives preservice teachers skills and strategies for instructing students who struggle to acquire literacy skills, including students with verified disabilities and low-achieving students. Small group and individual instructional strategies that can be used in inclusive classrooms as part of a total literacy curriculum. Instructional strategies address oral language, reading, writing, and spelling.

**397. Professional Practicum Experience III** (CURR, EDPS 397) (1-10 cr, max 10) Prereq: Admission to the Teacher Education Program.

For course description, see CURR 397.

**B. Secondary Special Education Practicum** (1 cr)

**397B. Secondary Special Education Practicum** (1 cr) Prereq: Parallel SPED 407.

Guided observations and/or clinical experiences in school and/or agencies offering programs for children/youth.

**[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; CURR 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; CURR 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.

**406/806. Diagnosis and Correction of Reading Disabilities** (3 cr)

Theory and techniques for assessing and instructing individuals who struggle with the acquisition of literacy skills. Strategies address word recognition and comprehension skills, including both individual and group methods of instruction.

**[IS] 407/807. Teaching Students with Disabilities in the Secondary School** (3 cr) Prereq: SPED 201 and 202, 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.

**[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.

**435/835. Instructional Strategies for Special Vocational Needs Learners** (3 cr)

Identification and utilization of appropriate instructional strategies for special needs learners.

**436/836. Career Education for the Special Needs Student** (3 cr) Prereq: CURR 434 or permission.

Philosophical and practical base of career education as it relates to special needs students. Career education units developed for infusion into subject matter areas.

**437/837. Directed Field Experience in Special Vocational Needs** (3 cr)

Class participants spend time observing and working in the field. Field sites selected on class participant preference.

**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. Lifespan Approach to Mental Retardation** (3 cr)

Lifespan approach for teachers, psychologists, and multi-disciplinary educational personnel to understand individuals with mental retardation. Definitions, identification, best practice standards and research in educational, residential, and vocational programming. Current legal and ethical issues in developmental disabilities.

**490. Workshop Seminar**

**493. Workshop Seminar**

**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** (1-24 cr) Prereq: Permission.

**497. Student Teaching** (CURR, HHPT, HLTH 497) (1-12 cr, max 12) Fld. Prereq: Admission by application only; completion of all required methods courses and practica, with minimum grades of C+ (2.5) per course. (See "Admission to Student Teaching" on page 317.) *P/N only.* For course description, see CURR 497.

**M. Mildly and/or Moderately Handicapped**

**Y. Mainstreaming** (1 cr)

**Z. Multicultural** (1 cr)

**498. Seminar: Mildly Handicapped** (1 cr) Prereq:

Concurrent registration with SPED 497M. *P/N 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)

- A. Survey: Educating the Visually Impaired/Multi-handicapped
- B. Structure and Function of the Eye
- D. Educational Implications of Low Vision
- E. Methods and Materials for Teaching the Visually Impaired/Multihandicapped (2 cr)

**\*852. Education of the Visually Impaired II** (1-6 cr, max 6)

- A. Braille Codes and Formats (2-week course)
- B. Nemeth Code
- D. Communications for the Visually Impaired/Multihandicapped
- E. Social-Psychological Aspects of Vision Loss

**\*853. Visually Impaired/Multihandicapped** (1-6 cr, max 6)

- A. Technology for the Visually Impaired/Multihandicapped
- B. Principles of Orientation and Mobility for the Visually Impaired/Multihandicapped
- D. The Severely Multihandicapped Learner
- E. Educational Assessment of the Visually Impaired
- J. Daily Living Skills
- K. Transition Skills for the Visually Impaired/Multihandicapped

**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** (CURR \*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 317.)

- 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 preprofessional program in speech-language pathology and audiology and is normally made by December 1 or May 1 of the semester in which the student will have completed SLPA 150, 250, 251, and 271. Acceptance is based on academic performance in these four courses and an overall 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.

**110. Voice and Diction** (3 cr) Prereq: Open to broadcasting majors only.

Systemic training in voice and diction for radio broadcasting. Attention to individual needs. Complete voice and diction evaluation by the Speech and Hearing Clinic. Individual therapy for those with voice or articulation difficulty.

**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.

**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.

**271. Introduction to Audiology** (3 cr)

Identification of the deaf and hard of hearing. Etiologies and pathologies of hearing impairment. Basic testing techniques of pure tone and speech audiometry.

**302. Manually Coded English Sign Systems** (2 cr)

Prereq: SLPA 101, 102, and 201. Theory and principles of Manually Coded English (MCE) sign systems. Extensive work on rules and vocabulary. Practice in expressive and receptive use of MCE.

**398. Special Topics in Speech-Language Pathology and Audiology** (3 cr) Prereq: Permission.**399. Independent Study** (1-3 cr) Prereq: Permission.**402. Interpreting and Evaluating Child Sign** (3 cr)

Prereq: SLPA 101, 102, 201, and 302. Viewing and transcribing children's signed language samples. Application of ASL and MCE to the understanding of signing as produced by deaf children. Principles of and practice in storytelling in both ASL and MCE.

**[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.

**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.

**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. Language Disorders: Preschool Level** (3 cr)

Characteristics of language impaired preschool children and the nature of their disorders. Introduction to principles of assessment and treatment.

**[IS] 464. Phonological Disorders** (3 cr) 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 and 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.

**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.

**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 each) Prereq: SLPA 397A and 397B.**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**

**893. Workshop Seminar**

**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
- D. Differential Diagnosis
- E. Externship
- G. Public Schools
- L. Language-Learning
- M. Medical Aspects
- R. 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.

## Vocational and Adult Education (VAED)

**NOTE:** The Department of Vocational and Adult Education is being phased out, and its programs are being incorporated into Curriculum and Instruction (CURR) or Special Education (SPED). Many VAED courses are now listed under CURR or SPED. The following courses had not been reassigned by press time. Please consult with your Teachers College adviser for updated information.

**247. Industrial Safety** (3 cr)

Organization and administration of safety programs in school shops and industrial plants. Methods and procedures to minimize accidents and loss.

**321. Special Methods of Teaching in Secondary School** (1-4 cr) Prereq: 6 hrs education and 50 percent of course work completed or being completed in the teaching field.

**321W. Special Methods of Teaching Computer Science** (1 cr) Prereq: VAED 318.

Objectives, teaching materials, and methods of presentation emphasizing the organization and management of computer science instruction.

**321Z. Special Methods of Teaching Health Occupations** (2-4 cr) Prereq: VAED 318.

Objectives, curricula, teaching materials, organization of subject matter, and methods of instruction in health occupations.

**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 division.

**420/820. Improvement of Instructional Programs for Post-High School Occupational Education** (ALEC 420/820) (1-3 cr)

Designing new instructional programs, expanding the impact of student behavioral objectives, and evaluating the total instructional program.

**483/883. Foundations of Human Resource Development** (3 cr)

Human resource development within organizations which includes the evolution, mission, and purpose of human resource development. Components of human resource development as well as the roles and competencies required of human resource development practitioners. Types of learning activities appropriate for nontraditional educational settings.

**484/884. Concept and Design of Training** (3 cr) Prereq: VAED 483/883.

Key skills in the whole process of Instructional or Training Design within an organizational setting, beginning with the isolation of significant performance and non-performance problems. Role of the Learning Specialist, learning theories and needs assessment appropriate in non-traditional educational settings. Appropriate for those involved in staff development in non-business settings.

**496/896. Problems in Secondary Education** (CURR 496/896) (1-6 cr) Prereq: Permission.

For course description, see CURR 496/896.

**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.

**\*805. Advanced Teaching Methods in Occupational Education** (ALEC, CURR 805) (1-3 cr)

**\*810. Educational Gerontology** (3 cr)

**\*812. Utilization of Modern Technology**

**\*814. Evaluation in Vocational Education** (3 cr)

**\*815. Development and Organization of Vocational Education** (ALEC, CURR \*815) (1-3 cr)

**\*821. Program Development in Adult Education and Training** (3 cr)

**\*822. Instruction of the Adult Learner** (3 cr)

**\*823. Implementation of Current Legislation** (1-6 cr)

**\*824. Contemporary Programs of Adult and Continuing Education** (3 cr)

**\*826. Program Evaluation in Vocational and Adult Education and Training** (ALEC 826) (3 cr) Prereq: VAED 821 or the equivalent and permission.

**\*829. Improvement of Instruction in Industrial Education** (3 cr)

**\*864. Administration of Adult Education Agencies** (EDAD 864) (3 cr) Prereq: 12 hrs education and permission.

**868. Dynamics of Small Groups** (3 cr)

**\*871. Trends in Adult Education** (3 cr)

**\*890. Workshop Seminars in Education** (ALEC 890) (1-12 cr)

**\*893. Workshop Seminar**

**\*899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

**NOTE:** The following are offered at Southeast Community College.

**VE/SCC 101. Drafting** (1-24 cr) Prereq: VAED, ALEC, MSYM majors only.

Principles and practices of mechanical and architectural drafting. Includes basic CAD practices.

**VE/SCC 201. Electronics** (1-24 cr) Prereq: VAED, ALEC, MSYM majors only.

Principles and practices in electricity/electronics.

**VE/SCC 202. Welding** (1-24 cr) Prereq: VAED, ALEC, MSYM majors only.

Principles and practices in arc and acetylene welding.

**VE/SCC 203. Automotive** (1-24 cr) Prereq: VAED, ALEC, MSYM majors only.

Principles and practices in small and automotive engines, gear trains, chassis components.

**VE/SCC 204. Machine Shop** (1-24 cr) Prereq: VAED, ALEC, MSYM majors only.

Principles and practices in machine tool operations. Manufacturing procedures.

**VE/SCC 301. Industrial Graphics** (1-24 cr) Prereq: VAED, ALEC, MSYM majors only.

Process of printing and allied industries. Experiences in offset procedures and operations including process camera, striping, platemaking and presswork, composition and copy fitting, screen printing, and letterpress.

## Agricultural Education (ALEC)

**Head: Professor Earl B. Russell**

The courses outlined below are planned for preparation of teachers of secondary programs of agricultural education, as well as entry into many other facets of the agriculture and agribusiness industry.

For complete course descriptions, see "Agricultural Education" on page 65 in the College of Agricultural Sciences and Natural Resources.

[ES][IS] **102. Interpersonal Skills for Leadership** (3 cr I, II) Lec/act.

**134. Introduction to Agricultural Education** (2 cr I) Lec/act.

**134L. Early Field Experience in Agricultural Education** (1 cr II) *Required of all Agricultural Education majors.*

**189H. University Honors Seminar** (3 cr I) Prereq: Good standing in the University Honors Program.

[ES][IS] **202. Leadership Development in Small Groups and Teams** (3 cr I, II) Lec/act.

**233. Extension Education** (2 cr I) Lec/act.

**234. Planning Leadership and Experience Programs** (3 cr II) Lec 2/lab 3. Prereq: Sophomore standing and ALEC 134 and/or 134L.

**237. Introduction to Human Relations in Education** (EDPS 237) (2 cr)

[ES][IS] **302. Dynamics of Effective Leadership in Organizations** (3 cr I, II)

**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: 8 hrs mechanized systems management; advanced standing. *Student demonstrations and presentations required.*

**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.

**380. The Dynamics of Agricultural Journalism** (3 cr II) Lec 3. Prereq: Junior/senior standing in agricultural journalism or permission. *Offered spring semester of odd-numbered calendar years.*

[ES][IS] **388. Ethics in Agriculture and Natural Resources** (AECN 388) (3 cr II)

**397. Special Topics** (1-3 cr, max 3 I, II) Lec. Prereq: Permission.

**399. Independent Study in Communications** (1-3 cr) Prereq: Permission and advance approval of plan of work.

[IS] **405. Methods of Instruction for Secondary Agriculture 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.

[ES][IS] **410/810. Environmental Leadership: A Historical and Ethical Perspective** (3 cr) Lec.

**412/812. Multimedia Applications for Education and Training** (3 cr) Lec/lab.

**413. Program Development** (3 cr) Lec/ret. Prereq: Junior standing and acceptance into the student teaching program in agricultural education.

[ES][IS] **414/814. Classic Figures in Leadership** (3 cr) Lec/act. Prereq: Junior/senior standing. *Extensive writing and oral presentations.*

**420/820. Improvement of Instructional Programs for Post-High-School Occupational Education (VAED 420/820) (1-3 cr)**

**\*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.*

**433/833. Planning and Implementation of Cooperative Extension Programs for Domestic and Foreign Audiences (3 cr II)** Lec 3. Prereq: Senior or graduate standing and consent of instructor.

**494. Undergraduate Seminar in Agricultural Education (1-3 cr)**

**495. Internship in Leadership Development (2-5 cr I, II, III)** Prereq: ALEC 102, 134, 134L, permission, and completion of the Internship Agreement form. *The internship site and training program are subject to approval by the department.*

**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.



## Deb Johnson

“Advising in General Studies is helping students make good choices. Many students, especially freshmen, have such varied interests that they do not know how to tie them together to an academic program. As an adviser, I work with students one-on-one to help them look at different college programs, internships, and career opportunities based upon their interests. While students are evaluating options, I can help assure that their courses are going to count toward graduation in whatever academic area they ultimately choose.

“I believe General Studies is the best place for students to start their college experience. We constantly update our database of information on college programs and other student programs, such as Career Services, so we give accurate information and make proper referrals.

“Being an adviser in General Studies is a great opportunity. I look forward to having the students I advise move from General Studies to a college, because that means I helped them match up their interests with an academic program, and, ultimately, choose a career goal. I see the benefit of the Division of General Studies in students’ lives on a continual basis.”

*Deb Johnson is an academic adviser in the Division of General Studies and Coordinator of the NU Start program.*



# Division of General Studies

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

## About the Division of General Studies (DGS)

The Division provides an academic home for NU 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 which are offered on the NU 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 2,300 students.

## Objectives

General Studies advisers cooperate with all nine 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 nine NU 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 nine undergraduate degree-granting Colleges are Agricultural Sciences and Natural Resources, Architecture, Arts and Sciences, Business Administration, Engineering and Technology, Fine and Performing Arts, Human Resources and Family Sciences, Journalism and Mass Communications, and Teachers. 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 nine 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 nine 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 12 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 at the beginning of this bulletin.

Some NU 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 **nine undergraduate colleges** will be advised of the procedure for removing the deficiency by their General Studies adviser. Most NU colleges expect these deficiencies to be removed by the end of the first year at the University; however, for General Studies students, this time period may be extended until the student declares a major.

## Transfer Students

Students desiring to transfer from other institutions and enroll in General Studies at NU 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 nine 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.

## Transferring from a College to General Studies

Students' reasons for transferring into General Studies from within the University system often fall into two categories. The first category includes students who need more time to explore academic options at NU before declaring a new college. The second category includes students who have not met or maintained the GPA requirement of a specific college but are still in good standing at the University. These students will be allowed to register as General Studies students while attempting to re-establish the GPA necessary for their chosen college. As soon as the specific requirement is met, these students are eligible to seek readmission to their chosen college.

## Academic Policies

### Pass/No Pass Policy

General Studies students should consult the policies of the colleges they are considering to determine the maximum number of pass/no pass (P/N) courses allowed. Students should also consult the general University policy governing pass/no pass (see the Pass/No Pass section of this bulletin).

### Grade Appeals

A student who wishes to appeal a course grade should follow the procedure outlined here.

1. Discuss the concern with the instructor or professor who taught the course.
2. Consult the Dean's Office for the grade appeal procedure in the college in which the course was taught. The specific guidelines are noted in this bulletin under each individual college.

## Degrees

General Studies does not offer a degree program. The majority of the students in General Studies are freshmen and sophomores who have not yet chosen a major or college or students who have *permission* to remain in the Division.

## General/Liberal Education and Comprehensive Education Program Courses Recommended

Almost all college majors are available to General Studies students. Some colleges have restrictions on enrollments in specific courses. General or liberal education requirements and Comprehensive Education Program requirements in undergraduate colleges at UNL range from 18-65 hours. The remainder of the 125-136 hour graduation requirement consists of courses required in the college major and areas and elective courses. A General Studies student will want to select the general/liberal education and Comprehensive Education Program courses and introductory courses which will allow maximum flexibility to explore various majors with minimal risk.

General Studies students should discuss with their advisers the courses that will serve them best.

### Courses to Consider for General Studies Registration

(NOTE: Those courses marked with double asterisks [\*\*] may be appropriate for some colleges.)

### Essential Studies

#### Area A. Communications

- [ES][IS] COMM 109.\*\* Fundamentals of Human Communication  
 [ES][IS] CURR 120.\*\* Basic Business Communication  
 [ES][IS] ENGL 150. Composition I  
 [ES][IS] ENGL 151. Composition II

#### Area B. Mathematics and Statistics

- [ES] MATH 104.\*\* Calculus for Managerial & Social Sciences  
 [ES][IS] MATH 106. Analytic Geometry & Calculus I  
 [ES][IS] MATH 107. Analytic Geometry & Calculus II  
 [ES][IS] MATH 203.\*\* Contemporary Mathematics  
 [ES][IS] STAT 180.\*\* Elements of Statistics

*NOTE: MATH 101, 102, 103 will not meet the Comprehensive Education Essential Studies math requirement but may be needed to fulfill prerequisite requirement(s) for college math requirement(s).*

#### Area C. Human Behavior, Culture and Social Organization

- [ES] ANTH 110. Intro to Anthropology  
 [ES] FACS 160. Human Development & the Family  
 [ES][IS] GEOG 140. Introductory Human Geography  
 [ES] POLS 100. Power & Politics in America  
 [ES] POLS 104. Comparative Politics  
 [ES] PSYC 181. Intro to Psychology  
 [ES][IS] SOCI 101. Introductory Sociology  
 [ES][IS] SOCI 217. Nationality & Race Relations (ETHN 217)

#### Area D. Science and Technology

- [ES] ASTR 103.\*\* Descriptive Astronomy  
 [ES] BIOS 101.\*\* General Biology  
 [ES] BIOS 101L.\*\* General Biology Lab  
 [ES][IS] BIOS 109.\*\* General Botany  
 [ES][IS] CHEM 105.\*\* Chemistry & the Citizen I  
 [ES][IS] CHEM 109.\*\* General Chemistry I  
 [ES] CSCE 155.\*\* Intro to Computer Science I  
 [ES][IS] GEOG 155.\*\* Elements of Physical Geography  
 [ES] GEOL 100.\*\* Intro to Geology  
 [ES] GEOL 101.\*\* Physical Geology  
 [ES] GEOL 105.\*\* Life of the Past  
 [ES] GEOL 106.\*\* Environmental Geology  
 [ES] GEOL 109.\*\* Oceanography  
 [ES][IS] NUTR 151.\*\* Intro to Nutrition  
 [ES] PHYS 141.\*\* Elementary General Physics I  
 [ES] PHYS 142.\*\* Elementary General Physics II  
 [ES] PHYS 151.\*\* Elements of Physics

#### Area E. Historical Studies

- [ES] HIST 100. Western Civilization to 1715  
 [ES] HIST 101. Western Civilization Since 1715  
 [ES][IS] HIST 105.\*\* American Ways (POLS 105)  
 [ES] HIST 150. African Culture & Civilization (ETHN 150)  
 [ES] HIST 171. Latin American Culture & Civilization (ETHN 171)  
 [ES] HIST 181. Intro to East Asian Civilization (POLS 171)  
 [ES] HIST 201. American History to 1877  
 [ES] HIST 202. American History After 1877  
 [ES] POLS 108. Political Ideas

#### Area F. Humanities

- [ES][IS] CLAS 180.\*\* Classical Mythology  
 [ES][IS] ENGL 180. Intro to Literature  
 [ES][IS] PHIL 101. Intro to Philosophy  
 [ES][IS] PHIL 106. Philosophy & Current Issues  
 [ES][IS] PHIL 110.\*\* Intro to Logic & Critical Thinking  
 [ES][IS] PHIL 116. Philosophy & Religious Beliefs

*A variety of English literature courses will also fulfill college humanities requirement(s).*

#### Area G. Arts

- [ES] AHIS 101. Intro to Art History & Criticism  
 [ES] AHIS 102. Intro to Art History & Criticism  
 ARTP 141. Visual Literacy I  
 ARTP 142. Visual Literacy II  
 [ES] CERM 131. Intro to Ceramics  
 [ES] DANC 159. Intro to Dance  
 [ES][IS] DESN 111. Foundation Design  
 [ES] DRAW 101. Beginning Drawing I  
 [ES][IS] ENGL 252. Writing of Fiction  
 [ES][IS] ENGL 253. Writing of Poetry  
 [ES][IS] ENGL 259A. Writing for Films & TV  
 [ES][IS] MUNM 276G. The Music Experience  
 [ES][IS] MUNM 280. World Music  
 [ES] MUNM 387. History of American Jazz  
 [ES] MUNM 388. Arts of the 20th Century: 1900-1945 (AHIS, THEA 388)  
 [ES] MUNM 389. Arts of the 20th Century: 1945-Present (AHIS, THEA 389)  
 [ES][IS] MUSC 278. Analytical Listening to Music Literature  
 [ES][IS] THEA 112G. Intro to Theatre  
 [ES] THEA 114.\*\* Basic Acting I

## Area H. Ethnicity and Gender

- [ES] **ANTH 351.** People & Cultures of Native North America (ETHN 351)  
 [ES] **ANTH 352.** Intro to Plains Ethnology (ETHN 352)  
 [ES] **ANTH 362.** People & Cultures of Africa  
 [ES] **ANTH 366.** People & Cultures of East Asia  
 [ES][IS] **COMM 211.** Intercultural Communication (ETHN 211)  
 [ES][IS] **ENGL 210B.** Sex Roles in Literature  
 [ES][IS] **ENGL 215E.** Intro to Women's Literature  
 [ES][IS] **ENGL 215J.** Twentieth-Century Women Writers  
 [ES][IS] **ENGL 243B.** Literature of India  
 [ES][IS] **ENGL 244.** African American Literature  
 [ES][IS] **ENGL 244A.** Intro to African Literature  
 [ES][IS] **ENGL 244B.** Black Women Authors  
 [ES][IS] **ENGL 245B.** Native American Literature  
 [ES][IS] **ENGL 245D.** Chicano Literature  
 [ES][IS] **ENGL 245J.** Jewish American Fiction  
 [ES] **ETHN 100.** Freshman Seminar—The Minority Experience  
 [ES] **HIST 150.** African Culture & Civilization (ETHN 150)  
 [ES] **HIST 171.** Latin American Culture & Civilization (ETHN 171)  
 [ES] **HIST 181.** Intro to East Asian Civilization (POLS 171)  
 [ES] **HIST 225.** Women in History  
 [ES][IS] **MUNM 280.** World Music  
 [ES][IS] **POLS 238.** Blacks & the American Political System (ETHN 238)  
 [ES][IS] **POLS 272.** Non-Western Politics  
 [ES][IS] **SOCI 200.** Women in Contemporary Society  
 [ES][IS] **SOCI 217.** Nationality & Race Relations (ETHN 217)  
 [ES] **SOCI 218.** Chicanos in American Society (ETHN 218)

## 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 100. Agriculture—Man's Frontier (2 cr)  
 AECN 141. Intro to the Economics of Agriculture (3 cr)  
 AGRO 131. Introductory Crop Science (4 cr)  
 ASCI 100. Animal Agriculture (2 cr)  
 ASCI 101. Introductory Animal Science & Livestock Evaluation (5 cr)

- HORT 130. Intro to Horticulture (4 cr)  
 MSYM 109.\* Physical Principles in Agriculture (4 cr)  
 NRES 101. Forestry & Natural Resources Orientation (1 cr)

### Architecture

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

### Arts and Sciences

- BIOS 101 and 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)  
 COMM 209. Public Speaking (3 cr)  
 CSCE 155.\* Intro to Computer Science (3 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)  
 CURR 120. Basic Business Communication (3 cr)

### Engineering

- CNST 112.\* Construction Communication (3 cr)  
*(For construction management interest only.)*  
 General Studies students may take the following courses on a "space-available" basis:  
 AGEN 112. Intro to Problem Solving (3 cr)  
 BSEN 112. Intro to Problem Solving (3 cr)  
 CIVE 112. Intro to Civil Engineering (1 cr)  
 ENGM 220. Statics (3 cr)  
 IMSE 150. Intro to Computers (3 cr) *(exploratory only, not for majors)*  
 MECH 100. Intro to Mechanical Engineering (1 cr)  
 MECH 130.\* Intro to CAD (4 cr)

### Fine and Performing Arts

- AHIS 101. Intro to Art History & Criticism (3 cr)  
 AHIS 102. Intro to Art History & Criticism (3 cr)  
 DANC 159. Intro to Dance (3 cr)  
 DRAW 101.\* Beginning Drawing I (3 cr) *(exploratory only, not for majors)*  
 THEA 112. Intro to Theatre (3 cr)  
 THEA 114. Basic Acting I (3 cr)

### Human Resources and Family Sciences

- FACS 120. Understanding the Consumer Role (3 cr)  
 FACS 160. Human Development & the Family (3 cr)  
 HRFS 183. Orientation to HRFS Professions (2 cr)  
 NUTR 151. Intro to Nutrition (3 cr)  
 TXCD 121. Design Essentials (3 cr) *(exploratory only, not for majors)*

### Journalism

- ADVT 250. Intro to Public Relations (3 cr)  
 ADVT 281. Intro to Advertising (3 cr)  
 BRDC 226.\* Intro to Broadcasting (3 cr)  
 JOUR 123. The Media Today (3 cr)  
 NEWS 180. Journalism Today (3 cr)

### Teachers

- CURR 331.\* Cultural Foundations of American Education (3 cr)  
 EDUC 131.\* Foundations of Modern Education (3 cr)

### Criminal Justice

- CRIM 101. Survey Criminal Justice (3 cr)

### Pre-Nursing

- BIOS 114. Nursing Anatomy (5 cr)

## Lt. Col. Richard Tracey

"The purpose of our ROTC program is to produce leaders for the United States Army. The majority of the Army officers come from ROTC programs like the one at the University of Nebraska, where students have a variety of academic options to pursue while experiencing one-on-one mentoring in an ROTC program of only 80 to 85 students.

"Military Science is an academic department at the University. Academic success is the most important aspect in cadet training; we have a fundamental belief that the same skills, discipline, and intellectual curiosity it takes to be successful students are equally important in being a successful Army officer. ROTC gives students an opportunity to learn practical, hands-on skills while developing self-confidence and leadership.

"I encourage students to consider the possibilities of ROTC programs by taking military science courses during their freshman and sophomore years without having to make a firm commitment to military service. I am confident the experience will benefit both individual students and the Army as some quality students will decide to continue in the program and make military commitments. Another positive aspect of the ROTC program is that 60% of our cadets receive some kind of scholarship or tuition remission."

*Lt. Col. Richard Tracey is professor of military science in the Army Reserve Officers Training Corps.*



# Reserve Officers Training Corps

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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 123 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 108 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

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### Air Force Reserve Officer Training Corps (Air Force ROTC)

**Chair:** Col. William L. MacElhaney, 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 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 class-

room opportunities to acquire personal and professional skills in human relations, communications, problem solving, and decision making.

### Eligibility and Enrollment

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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), 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, The Air Force Today 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

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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 and navigators 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. As a cadet, you will also attend Leadership Laboratory where you can 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 2 and one-half hours per week. Textbooks for all Air Force ROTC courses and uniforms will be provided free. After successful completion of the GMC, you may compete for the professional officer course (POC), taken during your last two academic years in college. You may complete the program while earning an undergraduate or graduate degree or any combination of the two.

If selected, you will attend a four-week summer field training encampment before you enter the POC. Professional officer course classes normally meet three hours per week. Students will take part in group discussions and group problem-solving seminars. You'll 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, you must complete a five-week field training encampment. This training is basically the same as the four-week course; however, you'll have additional academic training. Upon successful completion, you'll enter the POC. Apply as early as you can for this program so you can take advantage of all scholarship opportunities available.

### Scholarships

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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 \$200 a month tax-free allowance during the school year.

### High School

Competitive three- and four-year guaranteed 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. Deadline for submitting the completed scholarship package is December 1 of your 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. There is also a special \$3,000 a year scholarship reserved for cadets in the final two years of the AFROTC program called the Professional Officer Course Incentive. Students must have at least a 2.35 term to qualify. All academic majors are eligible for the scholarship. Members of the Air Force ROTC Corps 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 \$200 a month tax-free allowance during the school year.

## Curriculum

Any University of Nebraska-Lincoln, Doane College, Nebraska Wesleyan, and Southeast Community College 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 and navigators, active duty service is ten and six years respectively following the completion of their undergraduate pilot/navigator 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, and social nature and are designed to develop leadership qualities and to stimulate further interest in the Air Force.

**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 who meet minimum GPA standards. Arnold Air Society sponsors charitable and community activities such as projects for orphans and retirement homes, and Big Brothers/Big Sisters. Members of Arnold Air Society also serve as escorts in the sky boxes at Nebraska home football games and other University functions. 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.

## 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; Andrews AFB, Maryland, where the students were given the opportunity to visit our nation's capital and tour its many points of interest; Nellis AFB, Las Vegas, Nevada, where the students had a first hand look at "The Thunderbirds" aerial demonstration team operation; 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.

**Monthly Newsletter.** The Air Force ROTC monthly newsletter concentrates on events and concerns of the corps. The newsletter is published by cadets.

**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. The Air Force Today 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. Lab is only offered on a pass/no pass basis.*

Increasing students' knowledge of Air Force uniform wear, customs, and active duty opportunities.

#### 186. The Air Force Today 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. Lab is only offered on a pass/no pass basis.*

Increasing students' knowledge of Air Force uniform wear, customs, and active duty opportunities.

#### 295. The Air Force Way I (1 cr) Prereq: AERO 186 or permission.

History of the development and deployment of air power 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.

#### 296. The Air Force Way II (1 cr) Prereq: AERO 295 or permission.

Basic verbal and written communication skills, the environment of the Air Force officer, the basics of leadership, and the concepts of ethical behavior.

#### 295L and 296L. Leadership Laboratory (0 cr) *Successful completion of this course is required for commissioning. Lab is only offered on a pass/no pass basis.*

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. The Professional Officer 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. The Professional Officer 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. Lab is only offered on a pass/no pass basis.*

Practical application of the principles of leadership in the operation and administration of the cadet wing.

#### 441. National Security Forces in Contemporary American Society (3 cr) Prereq: AERO 331, 332, or permission of professor of aerospace studies.

Environment in which defense policy is formulated. Requirements for maintaining adequate national security forces; political, economic, and social constraints of the national defense structure; and the overall defense policymaking process.

#### 442. National Security Forces in Contemporary American Society (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.

#### 441L and 442L. Leadership Laboratory (0 cr) *Successful completion of this course is required for commissioning. Lab is only offered on a pass/no pass basis.*

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:** LTC Ricardo S. Barrera, Rm 110 Military and Naval Sciences 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 art and 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 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 3 credits each semester; in the advanced course, from 2 to 3 credits each semester. A total of 16 credit hours can be earned over the four academic years. Uniforms, textbooks, and equipment needed by students for military science courses 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 one and one-half 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, cardiopulmonary resuscitation, drill, 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 courses may be taken for credit by any University of Nebraska-Lincoln student.

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 scholarships are offered on a nationwide competitive basis to all high school seniors who plan to attend a university or college offering the four-year Army ROTC program. Two- and three-year scholarships are available to qualified full-time undergraduate students. Each scholarship can pay from \$2,000 to \$12,000 per year for tuition and fees, and \$450 for books and supplies, laboratory expenses and, in addition, an allowance of \$150 per month (tax free) for the school year (up to \$1,500). 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 \$150 per month during the school year session up to \$1,500 tax free. In addition, a sum of approximately \$700 is received while attending the advanced camp.

## Advanced Camp

Each advanced course student must attend an advanced camp, 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.

Advanced camp 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 camp and, in addition, receive pay of approximately \$700 while at camp. 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 basic ROTC summer camp during the summer before entering the advanced course. Students are paid travel expenses to and from basic camp. They receive approximately \$700 in pay and free room and board. No military or ROTC obligation is incurred by basic camp 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 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, 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 an officer trainee with a minimum pay grade of sergeant or higher. The \$150 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 two-year 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 weeks of supplementary training are available in a junior officer position within an active Army unit after attending the advanced camp. 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 five classes other than those listed below under course descriptions. Advanced course cadets, prior to receiving their commission, must have completed at least one undergraduate course in the fields of written communication, human behavior, math reasoning, computer literacy, and military history. Courses in management and national security studies are strongly recommended but are not required.

## Courses of Instruction (MLSC)

### Basic Military Science

**MLSC 111. The Role of the Military in Society** (1 cr) Introductory course acquaints student with the military and its role in society. Current military issues in the world, the nation, and in the military community. Introduction to the ROTC program, officership as a profession, and survival techniques for any emergency situation.

**MLSC 122. Military Leadership and Management** (2 cr) Basic principles of military management; communication processes and control techniques; leadership and motivation in military organization; and basic analytical techniques in management. Use of the skills and techniques in leadership and management problems they face in military science training and as commissioned officers.

**MLSC 111L and 122L. Leadership Laboratory** (0 cr) *Leadership lab is required for all cadets.*

Leadership laboratory is optional and voluntary to classroom work that provides challenging, rewarding, and practical activities in military skill development. At the same time, the individual is developing confidence and learning the importance of teamwork in goal accomplishment. Variety of activities from which to choose such as rappelling, land navigation and map reading, marksmanship, survival training, personal defense activities, survival swimming, military weapons, military drill, and cardiopulmonary resuscitation and first aid.

**MLSC 211. Contemporary Military Issues** (1 cr)

Introduction to the principles of war; overview of the United States defense system and its relationship to the politico-military decision-making process. Contemporary military issues are used as a vehicle for student presentations after exposure to fundamentals and techniques of military instruction.

**MLSC 223. Leadership Assessment and Development** (3 cr)

Introduces students to the Training Management System used by the US Army. How to develop, lead, and evaluate effective training for individuals and groups. Fundamentals of land navigation and individual infantry skills.

**MLSC 211L and 223L. Leadership Laboratory** (0 cr) *This lab is optional and voluntary.*

Second-year leadership laboratory continues to be the development of confidence, military skills, and a sense of teamwork. Students may be selected to fill leadership positions in the cadet corps. The variety of activities parallel those during the first year of the laboratory.

### 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 history section of this publication for course descriptions.

**MLSC 313. Military Tactics I** (3 cr)

Basic company-level tactical operations, map reading, patrolling, and introduction to the branches of the Army.

**MLSC 322. Military Tactics II** (2 cr)

Introduction to the relationship between the commander and staff; staff responsibilities, organization, and functions; and the development of tactical combat teams.

**MLSC 313L and 322L. Leadership Laboratory** (0 cr) Student is placed 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 hands-on exercises in the preparation for the summer advanced camp and the leadership responsibilities of the final year.

**MLSC 336. ROTC Internship** (2-6 cr) Prereq: Permission of the professor of military science. *Credit for this course is granted during the summer session only.*

Grants academic credit for participation at the ROTC advanced camp, 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.

**MLSC 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 ROTC Basic Camp 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.

**MLSC 412. Military Law and Ethics** (2 cr)

Material dealing with ethics and professionalism. Ethical standards required of today's leader in business as well as those of the military are presented to the student in case study format. History, structure, and application of the military justice system and international law of land warfare.

**MLSC 422. Army Profession (2 cr)**

Introduces cadets to the first few years of an Army career. Duties and responsibilities of LTs and CPTs, plus joint operations. Applicable to all Army branches, with emphasis in leadership and professionalism.

**MLSC 412L and 422L. Leadership Laboratory (0 cr)**

Leadership workshop providing the student an 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 Patrick E. Donahue**, 103 Military and Naval Sciences Building

The NROTC program is a highly competitive program maintained for a single purpose—to educate and train qualified young men and women for service as commissioned officers of the US Navy and US Marine Corps.

Both scholarship programs and college programs (non-scholarship) are offered by the NROTC. Additional NROTC-related scholarships are available for motivated and qualified students. The following information provides essential details; further information can be obtained from the naval science staff at the University of Nebraska-Lincoln, telephone (402) 472-2475.

### NROTC Scholarship Programs

NROTC scholarship students are appointed Midshipmen, United States Naval 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, cost of textbooks, fees of an instructional nature, and a subsistence allowance of \$200 per month. Midshipmen also receive training pay during summer training periods.

NROTC Midshipmen lead essentially the same campus life as other undergraduates. They make their own arrangements for enrollment and board and room, 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 military commander of the NROTC unit at the University of Nebraska-Lincoln is 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 less than 21 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 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 eight years in an active duty/inactive duty status from the date of acceptance of the commission. Normally, at least four years are spent in an active duty status.
4. Enlist in the United States Naval 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 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 \$150 per month 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 year 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 tax-free \$150 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 reserve 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 four years of active duty.) College Program students also receive government-furnished uniforms and all books required for naval science courses. During the junior and senior years, \$150 per month for a maximum of 20 months is also received.

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 Naval Reserve or Marine Corps Reserve 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 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 \$150 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 Naval Reserve or a second lieutenant in the Marine Corps Reserve, 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 can apply for a commission as a Regular Navy or Marine Corps officer.

**Two-Year College Program.** This program is set up 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 tax-free \$150 through the end of your senior year.

Two-year college program graduates are commissioned in the Naval Reserve or Marine Corps Reserve 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 Teachers College 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 122. Naval Weapons Systems (3 cr)
- NAVS 221. Navigation (3 cr)
- NAVS 320. Naval Ship's Systems (3 cr)
- NAVS 321. Evolution of Warfare (3 cr)
- NAVS 322. Naval Operations (3 cr)
- NAVS 412. Leadership & Management II (3 cr)
- NAVS 421. Amphibious Warfare (3 cr)
- ALEC 302. Dynamics of Leadership in Organizations (3 cr)
- 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 426. Topics in American Public Policy (3 cr)
- POLS 451. United States Foreign Policy (3 cr)
- POLS 462. National Security Organization & Policymaking (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 scholarship Midshipman transfers from reserve status to active duty and receives a commission as a reserve officer in the naval service. Graduates are commissioned as Ensigns in the Navy or as Second Lieutenants in the Marine Corps. College program Midshipmen are also commissioned as a reserve officer in the Navy or 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 ROTC Graduates.** A newly commissioned male or female 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. At the present time, no women are assigned to submarines, but this may change in the near future. The NROTC Program is a pipeline primarily to the aviation, submarine and surface communities.

The newly commissioned ensign assigned duty aboard a surface ship undergoes approximately four months of specialized surface warfare training and an additional year of graduate-level schooling if approved for nuclear propulsion training. Successful completion of this instruction leads to duty on a variety of classes of surface ships including aircraft carriers, cruisers, frigates, destroyers, amphibious ships, and auxiliary ships.

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 Fleet Marine Force 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 performances 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.

**Lincoln High School VIP Program.** Open to all Midshipmen, this Ventures in Partnership (VIP) Program provides mentoring and tutoring opportunities to local Lincoln High School Students.

**Navy/Marine Corp Birthday Ball.** The high point of the social season for all Midshipmen, this formal affair honors graduating Midshipmen.

**NROTC Basketball Team.** Open to all Midshipmen, the team competes with university intramural teams as well as teams from regional NROTC units.

**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.

**Tide and Current.** NROTC newspaper staffed, edited, and published by Midshipmen.

## Courses of Instruction (NAVS)

### Courses taught by the Department of Naval Science

**NAVS 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.

**NAVS 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.

**NAVS 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.

**NAVS 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.

**NAVS 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.

**NAVS 322. Naval Operations** (3 cr) Prereq: NAVS 331, or permission of department chair.  
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."

**NAVS 331. Navigation and Operation I** (3 cr) Prereq: Math 102 or 103 or permission.  
Theories, computations, practices, and techniques of terrestrial and celestial navigation together with the theory involved in advanced electronic navigation systems.

**NAVS 412. Leadership and Management II** (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.

**NAVS 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.  
An introductory course in computer science.  
Three credit hours in a course concerning national security policy or military history.

## Dana Boden

"The University library system has 10 separate physical locations and a total collection that exceeds 2.3 million volumes. Discovering how to use that library system is an important part of a student's academic experience at the University. The more basic knowledge of the library system that students have as freshmen, the sooner they will become comfortable with how to do research for their courses and papers. To help with that process, the library faculty developed an introductory library research course for freshmen. Library 110 is designed to give students the foundation they need to be able to use the libraries and its resources most effectively.

"Accessing databases of resources and information is much easier for students now that they can use the web directly rather than having to depend on us to mediate and get the information for them. In addition, academic areas have subject specialist librarians who are available to help students answer questions, stimulate research curiosity, and share information about database searches. One of our responsibilities is to know what is out there and how to arrange it best for the use of our students."

*Dana Boden is an associate professor of branch services with the University Libraries.*



# University Libraries

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**Joan Giesecke**, D.P.A., Dean of Libraries  
**Larry Kahle**, M.S.L.S., Associate Dean for Administration  
**Beth McNeil**, M.S., Associate Dean

## About the Libraries

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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 1871, when the University officially opened, the Library contained 1,200 volumes and was managed by a committee drawn from the teaching faculty. The University's first professionally trained librarian, Mary L. Jones, was not hired until 1892. Ms Jones classified the collection into the Dewey Decimal system and instituted the Library's first card catalog.

During the early 1900's the library collection grew in size and diversity. In 1907 a US documents depository collection was initiated, and by 1913 the number of total volumes exceeded 100,000. Despite the introduction of branch and departmental units, serious space shortages necessitated the shifting of large numbers of materials into storage. By 1934 the library's collection of approximately 285,000 volumes was housed in 27 different locations.

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. The library collections now totaled more than 400,000 volumes and were maintained by 21 professional and 8 support staff.

Throughout the 1950s and 1960s library collections continued to grow rapidly and the practice of shifting materials to storage areas again became expedient. In 1972 the library became a depository for state as well as federal documents. In 1975 the Love North addition opened, relieving, for a time, the ever recurring need for additional shelving space. The total collection now numbered over 1,725,000 volumes. The 2,000,000th volume, a Shakespeare first folio, was added in 1991. The collection now exceeds 2,400,000 volumes.

Today the University Libraries are made up of Love Library and nine branch libraries: Architecture, Biological Sciences, Chemistry, Engineering, Geology, Mathematics, Music, and Physics on the City Campus and the C.Y. Thompson Library on the East Campus. Together with the Marvin and Virginia Schmid Law Library, the University Libraries offer both in-house and remote access to an ever developing on-line information service called the Innovative Research Information System (IRIS). IRIS currently includes the Libraries electronic catalog, general and specialized article indexes, full text electronic journals, 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. 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.

## Courses

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Library 110 is intended for incoming first-year students as part of the Comprehensive Education Program.

## Grading

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### 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

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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.

### 110A. Introduction to Library Research (AGRI, NRES 103) (1 cr)

For course description, see AGRI 103.

## Michelle Miller

"What is crime? How do we define it? How do we define policy? How do we know when something is good policy? What is good behavior? What is bad behavior? These are typical questions I ask my criminal justice students to give them a foundation in understanding why we as a society do things. Then we talk about how. In my classes there are very few facts; most often there are no right answers in discussion. There are facts and trends students have to know, but the trends are based on statistics that are based upon the way we treat the issue. Students need to understand why the ways in which we treat issues are flawed. If they don't understand the flaws, they just assume the statistics are true. I can't let them do that.

"I became interested in criminal justice and the criminal justice system because my academic background is sociology. Sociology is about the world and how the world impacts individuals and how the individuals impact the world. My interest in crime and how crime relates to policy and the criminal justice system is a natural extension of sociology and social policy. In the classroom, I try to make students see what theory brings to their lives in that it helps to generate policy and creates the system within which they will be working."

*Michelle Miller is an assistant professor of criminal justice in the University of Nebraska at Omaha's College of Public Affairs and Community Service.*



# Programs on the UNL Campus Administered by Omaha Units

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## COLLEGE OF PUBLIC AFFAIRS AND COMMUNITY SERVICE

### University of Nebraska at Omaha Administered

David W. Hinton, 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. 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 on the Omaha campus. The College of Public Affairs and Community Service also offers course work leading to a certificate in gerontology. In addition, aviation course work is available for pre-aviation students, but the aviation program must be completed on the Omaha campus.

## Careers

**Aviation Institute.** The aviation curriculum is customized to prepare students for excellent careers in both the public and private sectors. The aviation course work will provide students with the knowledge and experience needed to successfully compete in today's highly competitive and aggressive aviation industry, as well as provide an appropriate academic foundation for graduate education. Students may also obtain work experience within numerous local aviation industries through the internship and Cooperative Education programs.

**Criminal Justice.** The criminal justice program provides its students with the foundation for entering many diversified criminal justice related careers including the courts, law, corrections and law enforcement. The department 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 9 of this bulletin.

The aim and purpose of academic advising is to assist students in 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 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 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 for all college work, including work transferred from other institutions. In the major field, the candidate must attain at least a "C" grade in as many hours of work as the minimum number of courses required for the major by the department. 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.

**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.

**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.

## 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. If the matter is not resolved, the student must meet with the department chairperson. If a satisfactory agreement cannot be reached, the student must appeal, in writing, to the department 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 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.

## Senior Check and Application for Degree

During the second semester of their junior year, or after completing approximately 89 hours, students should apply for a check 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 check at the CPACS Office, 1100 Neihardt.

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

### Aviation Institute

**Director:** Brent D. Bowen, Ed.D.

**Coordinator's Office:** 1102 Neihardt Residence Center/Love Hall, 472-0957

**Faculty:** Acheson, Bowen, Ferguson, Larson, Lutte, Schaaf, Terry

The Aviation Institute offers UNL students the Pre-Aviation (Pre-AVIA) major in the College of Public Affairs and Community Service. This course of study may lead to a bachelor of science in public administration, aviation administration area of specialization at the University of Nebraska at Omaha, or a bachelor of general studies with a major in aviation studies as a distance option through the College of Continuing Studies in Omaha. The Aviation Institute offers courses on the Lincoln campus to introduce students to the concepts of aviation. These courses may be used as electives in some UNL degree programs and a minor in the criminal justice degree program. Pilot certification courses include theory courses conducted on the UNL campus. All courses may be used toward either an aviation major or minor at UNO. Further information can be obtained either from the Aviation Institute coordinator listed above or from:

Aviation Institute  
University of Nebraska at Omaha  
422 Allwine Hall  
Omaha, NE 68182-0508  
(402) 554-3424 or (800) 858-8648

### Scholarships

Students should contact the Aviation Institute coordinator for further information on the following scholarships available to aviation students:

Alpha Eta Rho, Aviation Fraternity Annual Scholarships  
Aviation Ambassador Scholarships  
NASA Scholarships/Fellowships

## Courses of Instruction (AVIA)

### 100. Introduction to Aviation and Aerospace (3 cr)

Broad understanding of all aspects of the air transportation and aerospace industries. Lectures cover what has happened in the industry to date, with emphasis on present and future developments in air transportation. Includes the impact the airline industry is making on airports and other segments of aviation and aerospace.

### 102. Private Pilot Theory (3 cr) *A special fee is involved for this examination.*

Familiarizes the student with theories associated with flight. Include aerodynamics, weather, FAA regulations, navigation, airports, airspace and aviation safety. There is no flight requirement associated with this course. Students will be required to pass the FAA comprehensive written exam.

### 104. History of Aviation and Aerospace (3 cr)

Historical antecedents leading to the conquest of the air and the evolution of aviation and aerospace progress to present day. Intended as an introductory course for those pursuing a major in aviation or considering aviation as a vocation; or for undergraduates wishing to gain a historical perspective of the development of the field of aviation and aerospace.

### 105. Aviation Meteorology (3 cr)

Elements of weather systems from the surface to the upper air level, flight hazards, and the meteorological flight planning environment as it affects the aviation environment. Convergence and divergence, pressure systems structures and air mass characteristics.

### 116. Aviation Safety (3 cr) Prereq: AVIA 100 or concurrent enrollment.

Detailed introduction to aspects of aviation safety as well as the associated components of flight human factors, aircraft technology, weather related accidents, and accident investigation.

### 216. Commercial Pilot Theory (3 cr) Prereq: AVIA 103 or possess a US FAA issued private pilot certificate.

Theories involved in flight at the commercial level. Includes extensive review and study of VFR cross-country procedures and night flight procedures to prepare the student for the FAA commercial pilot written examination. There is no flight training involved in this course.

### 217. Instrument Flight Theory (3 cr) Prereq: AVIA 216P or hold a valid US private pilot certificate.

Theories and regulations involved in instrument flight. Includes a strong foundation in attitude instrument flying and instrument navigation, to prepare the student for the FAA instrument written examination. There is no flight training involved in this course.

### 251. Diversity in Aviation (3 cr)

Overview of contributions women and minorities have made to the field of aviation. Very interdisciplinary in scope; international aspects and issues of aviation will be addressed as well.

### 290. Special Topics in General Aviation (1-3 cr)

Various topics in aviation to be determined each time the class is offered. Possible topics include the Ground Instructor Rating, the Seaplane Rating, and Airline Simulation.

### 304. Human Factor in Aviation Safety (3 cr) Prereq: AVIA 116.

Understanding of human factors as it applies to pilots and administrators. Topics include pilot physiological and psychological issues, work station design, crew resource management, and related public sector issues for managers.

### 309. Airport Master Planning and Management (3 cr) Prereq: AVIA 100.

Nation's airspace design navigation and air traffic systems and their affect on airport capacity. The national airport system is investigated as well as airport design and development parameters fiscal processes and management considerations.

### 315. Aviation Law (3 cr) Prereq: Aviation major, AVIA 100, or permission.

Increases student's knowledge of aviation law. Focuses on the manner in which legal forces affect the aviation system. Case studies discussed throughout the course.

### 320. Cooperative Education in Aviation (3-6 cr) Prereq: Junior standing, AVIA 100, 104 and permission to students employed in the aviation industry. *May be repeated for a maximum of 6 credit hours.*

Coordinated work experience with industry. Complements course work through obtaining actual first hand experience in the aviation workplace in a part-time environment.

**400. Independent Research in Aviation** (1-3 cr) Prereq: Senior standing, aviation major, and written permission. Provides aviation student an opportunity to complete an in-depth analysis of a specific aviation topic. Includes aerodynamics, airport rates/charges analysis, cost allocation for airside/landside, aviation marketing relating to aircraft manufacturing, airline promotion, flight component, off-airport subjects, comprehensive regional planning, environmental subject, etc.

**420. Internship** (3-6 cr) Prereq: Junior standing, AVIA 100, 104, and selection by committee. Direct hands-on experience in the aviation industry for selected students. Students selected for the internships by a panel of Aviation Institute faculty and industry representatives from companies providing the internships. Experience in a full-time, preferably paid position in a highly structured environment using a syllabus designated by the faculty and industry committee.

**490. Special Topics in Aviation** (1-3 cr) Prereq: Junior standing and AVIA 100. Various topics in the aviation industry determined each time the course is offered. Possible topics include international aviation, current issues, regulatory agencies within the industry, and cockpit resource management, along with other topics.

## Criminal Justice

**Chair: Dr. Robert Meier**

**Coordinator's Office:** 1100 Neihardt Residence Center/Love Hall, 472-3677

**Faculty:** Battion, DeLone, Eskridge, Esbensen, Herz, Hoffman, Horney, Jacobs, Maguire, C. Marshall, I. Marshall, Miller, Ogle, Roncek, Secret, Spohn, Turner, Wakefield, Walker, Zhao

Although the bachelor of science in criminal justice degree can be earned in its entirety on the Lincoln campus, the degree is conferred by the University of Nebraska at Omaha. All of the departmental 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 an overall grade point average of 2.5 and no grade lower than "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, 102, 150, 151, 254, 255, 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 Department of 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 cumulative grade point average of 2.5 and no grade lower than a "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 Department of Criminal Justice before being admitted to the upper division criminal justice program. Students wishing to transfer are encouraged to contact the department 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 department has the discretion to make exceptions to the admission policy.

Application forms may be obtained at the Criminal Justice Department office. Application deadline for fall admission: last working day of July; spring admission: last working day of October; summer admission: last working day of March.

## Departmental 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 reading courses are not considered in residence.
- At least 18 hours of criminal justice must be taken at the University of Nebraska, at either the Omaha or Lincoln campus.
- No less than 45 credit hours must be earned in upper division (300/400-level) courses. At least 15 of these upper division hours must be taken in the Department of Criminal Justice.
- A maximum of 25 credit hours from correspondence courses may be applied toward the BSCJ degree.
- No more than 12 credit hours of 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 45 hours in criminal justice and 30 hours from any other department may be applied toward the BSCJ degree.
- A maximum of 24 hours may be taken pass/no pass and none of the 36 hours required for the criminal justice major may be taken pass/no pass (excluding CRIM 397 Internship).
- Credit for basic military 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, 102, 150, 151, 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 selected courses in family and consumer science (list of approved courses available at Criminal Justice Department office). No more than 6 hours from any one department may be used to meet this requirement.

## C. Natural Sciences and Mathematics (12 hours).

Students are required to complete one college algebra course (MATH 101). MATH 95C or 100A will not apply to the degree. Additional hours are to be selected from astronomy, biology, botany, chemistry, computer science (except CSCE 137), geology, math, meteorology, nutrition (131 or 151), physical geography, physics, or zoology. Each student must complete one laboratory course from one of these listed disciplines. Natural science credit in geography is limited to the following courses designated as physical geography: GEOG 150, 155, 252, 350, 353, or permission. All physical geography labs count toward the natural science lab requirement.

**D. Humanities (12 hours).** Art and art history, classics, English literature, foreign languages, journalism, music, philosophy, religion, speech, 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 311.

**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, MATH 180 or SOCI 206 will also fulfill the requirement.)

**NOTE:** *Criminal justice 300 will not apply toward the 36 hours of required criminal justice courses.*

## Criminal Justice Requirements (36 semesters hours).

All candidates for the BSCJ degree must complete CRIM 101 Survey of Criminal Justice, CRIM 251 Research Methods (or SOCI 205) 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 also include CRIM 335 Criminology (or SOCI 209) and CRIM 351 Criminal Procedure. The remaining 15-18 credit hours of course work in the student's major will be selected in consultation with the student's adviser.

The following sociology courses may be substituted for equivalent criminal justice courses and applied toward the 36-hour major: SOCI 205 for CRIM 251, SOCI 209 for CRIM 335, SOCI 311 for CRIM 337, and SOCI 474 for CRIM 413. Credit toward the degree will not be allowed for both courses which are considered equivalent.

Students must achieve a grade of C or better in each criminal justice course used as part of the 36-hour 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.

**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 (23 semester hours).** Students may select electives after consultation with their adviser. Elective courses may include a maximum of 9 hours 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, CURR/ETHN 330, ETHN 100, HIST/ETHN 357 or 358, POLS/ETHN 238, PSYC/ETHN 310 or 425, SOCI/ETHN 217, 218 or 481. 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.

## Courses of Instruction (CRIM)

### 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.** *Criminal justice 251 and SOCI 205 cannot both be applied toward the degree.*

Introduction to research methods in the social and behavioral sciences, with particular emphasis on applications to criminal justice issues. Research design rather than statistical analysis.

**300. Applied Statistics and Data Processing in the Public Sector (3 cr) Prereq: MATH 101 or 131 or permission**

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 criminal justice program.

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 criminal justice program.

Elements and proof in crime of frequent concern in law enforcement with reference to principal rules of criminal liability. Importance of criminal law at the enforcement level is considered from crime prevention to court appearance.

**335. Criminology (3 cr) Prereq:** Students must be admitted into upper division criminal justice program. *Criminal justice 335 and SOCI 209 cannot both be applied toward the degree.*

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 criminal justice program. *Criminal justice 337 and SOCI 311 cannot both be applied toward the degree.*

Delinquency and its scope as an individual and social problem; theories of delinquency causation, law enforcement and the juvenile court, and methods of control through correction and prevention.

**338. Minorities and Criminal Justice (3 cr) Prereq:** Students must be admitted into upper division criminal justice program.

Survey of minority relations and criminal justice adjudication in America (law enforcement, judicial processing, and corrections). Majority/minority relations and how these sentiments are reflected within the criminal justice process. Three types of minorities examined: 1) racial minorities; 2) female victims and offenders; and 3) unique white ethnic subcultures.

**339. Women, Crime and Justice (3 cr) Prereq:** Students must be admitted into upper division criminal justice program.

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 criminal justice program. Procedural problems that can occur during arrest, use of force, search, and seizure.

**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 criminal justice program. Contemporary concepts, principles, and theories of organization and administration as they relate to criminal justice agencies. Historical development and modern practices of public policy.

**413. Sociology of Deviant Behavior (3 cr) Prereq:** Students must be admitted into upper division criminal justice program. *Criminal justice 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 criminal justice program. 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 criminal justice program. 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 criminal justice program.

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 criminal justice program or permission. 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.

**475. International Criminology and Criminal Justice (3 cr) Prereq:** Students must be admitted into upper division criminal justice program.

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 criminal justice program.

Development of an understanding of terrorism as a political crime that has a very precise focus that is frequently not discernible. Social, political, and psychological aspects of this behavior.

**477. Organized Crime (3 cr) Prereq:** Students must be admitted into upper division criminal justice program. 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 criminal justice program. 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 (6 cr max) Prereq:** Students must be admitted into upper division criminal justice program. Analysis of contemporary special problems in the broad spectrum of criminal justice.

**495. Independent Studies (6 cr max) 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. James A. Thorson, 554-2272**

**Faculty:** Horacek, Kosloski, Powell, Thorson, Waskel

Undergraduates may earn a certificate in gerontology by completing 15 hours of specified course work plus a one-semester, full-time 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 CPACS office, 1100 Neihardt (472-6759); or from Dr. Horacek, Annex 24 on the Omaha campus (554-2280).

## 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. The only required course is GERO 200 (Introduction to Gerontology) although FACS 362 (Adulthood and Aging) may be substituted for GERO 200. 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, full-time field placement is also required. Students in most cases will earn six hours of academic credit for this practicum by registering for GERO 492

(Practicum). It may be possible to coordinate this experience with field placement requirements in other departments (e.g., social work or human development and the family), but in all cases such arrangements must have the prior approval of the gerontology departmental practicum coordinator.

**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 post-graduate. Gerontology advisers maintain a degree of flexibility in order to work with students who have special needs.

## Courses of Instruction (GERO)

### 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. Educational Gerontology (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)

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 (3 cr)

Examines different kinds of behavior and the changes which may occur in older age. Applications of various personality theories concerning aging will be considered.

### 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.

### 448. Comparative Gerontology (3 cr)

Study of aging around the world by a comparative method in a cross-cultural and cross-national framework. An explanation of some practical experiences and developments in Europe, Asia, and Africa will be examined.

### 450. Administrative and Legal Concerns of the Elderly (3 cr) Prereq: GERO 200.

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) Prereq: GERO 200.

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)

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)

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)

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 (0-6 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:

Permission.

Develops basic counseling skills for application in gerontology.

## Social Work

### Director: Dr. Sunny Andrews

Associate Director: Paul Sather, CMSW, LMHP

Advisement Coordinator (Lincoln Campus):

Karen Fulton, 1100 Neihardt Complex, 472-1876

Faculty: Andrews, Barnett, Barron-McKeagney,

Burch, Coyne, D'souza, Dendinger, Hagen, Lee,

Russel, Sather, Weber, Weitz, 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 BSW program during the second semester of the sophomore year or when the student will have 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) with a minimum GPA of 2.0 (C). 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*. 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 (12 hours).** 6 hours may be selected from ENGL 101, 101A, 101B, 101D, 102, 150, 151 or 254; and students must complete SOWK 398, Writing for Social Work on the UNO campus.

Students must also complete a 3-hour course in speech communication selected from COMM 109, 209, 212, or 311.

**B. Social Sciences (22 hours).** The social sciences hours are to be selected from the following disciplines: psychology, 7 hours; sociology, 6 hours; economics, 3 hours; political science, 3 hours; and history, 3 hours. Courses must be selected from the approved lists detailed in the *Social Work Student Handbook*.

### C. Natural Sciences and Mathematics

**(11 hours).** The natural sciences and mathematics hours must include the following courses: BIOS 101 and 101L, MATH 101 (or test out) and one of the following statistics courses: CRIM 300, SOWK 3000 (at UNO), EDPS 459, SOCI 206, ECON 215, or MATH 180.

**D. Humanities (9-12 hours).** Students choosing Option 1 will complete 9 hours and those choosing Option 2 will complete 12 hours. Courses must be selected from the approved lists detailed in the *Social Work Student Handbook*.

### Social Work (50 hours).

(\*=Offered at UNO only)

A student must complete SOWK 1000 and SOWK 1500 with a grade of "B" or better prior to beginning the professional program.

\*SOWK 1000. Social Work & Social Welfare (3 cr)  
\*SOWK 1500. Volunteer Experience (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 Functioning & Social Systems I (3 cr)  
\*SOWK 3020. Human Functioning & Social Systems II (3 cr)  
\*SOWK 3110. Social Policy I (3 cr)  
\*SOWK 3320. Social Work Practice I (3 cr)  
\*SOWK 3350. Social Work Practice II (3 cr)  
\*SOWK 4120. Social Policy II (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 (18-21 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 2 courses taken pass/no pass per semester).

## Courses of Instruction (SOWK)

### Offered at UNO

#### 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. Volunteer Experience** (3 cr) Prereq: SOWK 1000, sophomores may take SOWK 1500 concurrently with SOWK 1000, or permission of the School.

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 131, 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 Functioning and Social Systems 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 Functioning and Social Systems 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. Social Policy I

(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.

#### 4010. Social Work with American Indians

(3 cr) Prereq: SOWK 3320 or permission of the School. *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: SOWK 3320 or permission of the School. *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: SOWK 3320 or permission of the School. *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** (Gerontology 469) (3 cr) Prereq: Senior in gerontology or social work, or permission.

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. Social Policy II

(3 cr) Prereq: SOWK 3110, ECON 211, POLS 100, 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: SOWK 3320 or permission of the School.

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 Mental Retardation

(3 cr) Prereq: SOWK 3320.

Pursuant to the achievement of the School's mission to train and educate undergraduate rural and metropolitan BSW-level students for a well-rounded generalist practice, this course serves as 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 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 non-religious (i.e., outside sectarian institutional contexts) perspectives.

**4850. Hospice and Other Services for the Dying Patient/Family** (Gerontology 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. *Offered spring semester only.*

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.

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.

**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, St. Elizabeth Community Health Center, The Tabitha Home, 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 master's 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, Fairfield Hall, UNL, 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). A

total score of at least 550 on the paper-based TOEFL or 213 on the computer-based TOEFL is required. An overall comprehensibility score of 220 on the TSE is required. For the test of spoken English, students taking the TSE need a minimum score of 220 for admission. Students taking the SPEAK test need a minimum score of 55 for admission; students scoring 45 to 50 will be required to have an interview to determine admission eligibility. Foreign students admitted on the basis of undergraduate work completed in a college or university in which instruction is in a language other than English will be required to demonstrate acceptable proficiency in English before they will be eligible for admission. Proficiency must be demonstrated by successfully completing study in a college or university in the United States. These credits must include an intensive language program offering instruction in English as a second language and 6 hours of English Composition.

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:

3-4 hrs chemistry
4 hrs human anatomy
4 hrs physiology
3 hrs English composition
3 hrs human growth & development
3 (4) hrs introduction to psychology
3 hrs introduction to sociology

The curriculum consists of a total of 64 non-nursing credit hours and 64 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.

The non-nursing course requirements for the BSN degree include the 19-20 hours listed previously and the following courses. (All courses must be completed with a grade of "C" or better.)

Course	Hours
Additional English Composition.....	3
Human Nutrition .....	3
Statistics .....	3
Microbiology .....	4
Introduction to Ethics .....	2-3
*Art, Literature & Music .....	3
*Race, Ethnicity & Gender .....	3
*Human Behavior .....	3
*Social Organization .....	3
One additional course from any one of the four categories above (marked *) .....	3
Free Electives .....	7-9

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, women in contemporary society, University Foundations.

## Technical Standards for the Undergraduate Program

All candidates must meet minimum technical standards to function successfully as students and later as practitioners of nursing. The following general abilities have been identified as necessary to meet the technical standards for admission.

## 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 in the *Bulletin of the College of Nursing* which may be obtained 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

The student must possess the functional use of the senses of sight, hearing, touch, and smell. He/she must also possess a sense of equilibrium along with sufficient motor function to carry out activities required in nursing. Additionally, the student must possess the communication and intellectual skills to perform the assessment and intervention activities required in providing nursing care.

These general abilities will be required to meet the objectives of undergraduate courses and will be evaluated throughout the program.

## Application Procedure

Students may apply for admission to the College of Nursing while their non-nursing required courses are in progress. The starting dates for the program are late August and mid-January each year. Application deadlines are December 31 for fall semester of the following year and June 30 for spring semester of the following year. **Early application is encouraged**, since the College of Nursing can accommodate only a specific number of students.

Students with a minimum cumulative college grade point average of 2.0 (C) may apply for admission. Since the College of Nursing cannot admit more students than it has resources to accommodate, admission is competitive based on college cumulative GPA and course completion; therefore it is in the best interest of the student to complete as many of the non-nursing courses with the best GPA as possible. An average GPA for admission has been 3.0 or above for all campuses. Applicants with GPA's of 2.5 and above will be given priority consideration for admission. If space remains available, students with a GPA between 2.0-2.49 may be considered for admission. **A course grade of "D" in any of the non-nursing courses is not acceptable to the UNMC College of Nursing.** Full admission is dependent upon the cumulative GPA and successful completion of all prerequisites and support courses.

Application forms and information about the College of Nursing can be obtained from the Office of Academic Records, University of Nebraska Medical Center, Box 984230, Nebraska Medical Center, Omaha, NE 68198-4230. Applicants may obtain additional information through the Student Services Advisers of the College of Nursing (Omaha Division 402/559-5102, Lincoln Division 402/472-7343, 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 to either UNL, UNMC, UNO, or UNK **do not 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 of campus.

Beginning in March and September 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. Acceptance is not final until these requirements are met. 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. Finally, each student admitted to the College of Nursing must meet with the Student Services Adviser on his or her campus to file a projected plan of study.

## 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 \$110.75 per credit hour for the 1999-2000 academic year. In addition, some 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 will 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) <sup>1</sup> .....	4
NURS 280 Foundations of Nursing (2.5/1.5) <sup>1</sup> .....	4
NURS 399 Evaluating Nursing Research.....	2
	12

**NOTE:** All required non-nursing courses must be completed prior to starting Level 2.

Level 2: (Junior)	Hours
NURS 320 Family-Centered Nursing Care of Adults I (4/3) <sup>1</sup> .....	7
NURS 325 Pathophysiologic Basis of Alterations in Health.....	4
NMED 270 Pharmacology & Drug Therapy in Nursing.....	2
	13

Level 3: (Junior)	Hours
NURS 340 Family-Centered Maternity Nursing (3/2) <sup>1</sup> .....	5
NURS 350 Family-Centered Nursing Care of Children (3/2) <sup>1</sup> .....	5
NURS 425 Concepts, Issues, & Nursing Care Related to Chronic Health Conditions (2/2) .....	4
	14

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**

1. Theory hours/Lab hours.

## Courses of Instruction (NURS)

Credit allowance for nursing courses is based on a semester. Each class hour earns 1 credit hour. Clinical/laboratory hours are computed on a basis of 1-credit hour for each 3-hour clinical/laboratory period.

### NU262. Professional Nursing (2 cr) Prereq: Admission to nursing major.

Begins the student's development as a professional nurse. Cultivates students as co-participants engaging in a variety of learning interactions. Traditional and evolving roles of the professional nurse will be explored with an emphasis on societal forces. Philosophy and conceptual framework of the College of Nursing at UNMC will be examined and the relationship among the concepts will be explored. Content promotes acquisition of the professional role through the development and enhancement of life-long learning skills.

### NU268. Health Assessment and Promotion (4 cr) Prereq or concurrent: NU262 and NU280.

Holistic approach to lifespan assessment of the well individual. Through the processes of knowing, relating, and developing the student will attain a better understanding of self and others. Examine health beliefs, identify factors impacting adoption of healthy life-style, and develop a health promotion plan for self and others. Students use knowledge from prerequisite and concurrent courses as they obtain health histories and perform physical examinations on selected clients. Identify expected findings, identify the presence of alterations, and explore health promotion behaviors. Further skills to be developed include: interviewing; developing a narrative; formulating a health history; developing assessment skills in the physical, psychosocial, developmental, cultural, spiritual, and environmental areas. Completed assessments will be used in the framework of the nursing process. The role of the nurse as a competent, caring professional will be applied to health assessment and health promotion.

### NU280. Essentials of Nursing Care (4 cr) Prereq or concurrent: NU262 and NU268.

Theory and practice focusing on essential psychomotor and therapeutic interpersonal skills for professional nursing. Opportunity to develop and practice skills in laboratory and clinical settings with adult clients.

### NU320. Family-Centered Nursing Care of Adults I (7 cr) Prereq: Level I standing courses. Prereq or coreq: NUMED 270 and NU325. Permission.

Focus on the nursing care of individual adult clients within the context of their families. Core knowledge from prerequisite and corequisite courses will be used to support integration of content. Emphasis placed on the students' beginning utilization of decision making models and development of clinical judgement to restore, promote and protect the health care of adult clients. Variety of health care settings will be utilized to maximize student experiences. Through the processes of knowing, relating, and developing the student will attain a better understanding of self and adult clients and their families.

### NU325. Pathophysiologic Basis of Alterations in Health (4 cr) Prereq: Anatomy and physiology. Permission.

Focus on the pathophysiologic basis for selected alterations in health across the lifespan. Theories of disease causation will be explored. Acquired, immune, infectious, carcinogenic and genetic alterations in health in the body systems will be presented with an emphasis on etiology, cellular and systemic pathophysiologic 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.

### NU394. Transition to Baccalaureate Nursing Education (1 cr)

Facilitates the transition of the advanced placement student into the educational program to the UNMC-CON. Development of a faculty and peer support system is central to this transition process. Explore concepts central to the development of a baccalaureate prepared nurse. Introduced to strategies that will facilitate their educational process.

### NU399. Evaluating Nursing Research (2 cr) Prereq: Statistics. Permission.

Acquaints the student with the research process and its relationship to nursing science. Emphasis placed on the components of the research process, the concepts and terms associated with the process, and the evaluation of published research reports so that research may be utilized in professional 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 coreq: 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.

### NU440. Introduction to Computing in Health Care (3 cr-elective)

Exploration of the role of the professional nurse in the design, implementation, and use of computing and high technology medical devices in the health care setting. Theories of the teaching-learning process, change process, and information management are used to critically examine issues related to the use of state-of-the-art information systems in the health care system. Includes opportunities for the student to expand cognitive and psychomotor skills in applying a variety of computing applications to complex health care issues.

### 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. Coreq: 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

### NU494. Complementary Therapies in Health Care (2 cr)

Theory and practice in a variety of complementary health care modalities. Efficacy, cost, and ethics included.

## Steve Dunbar

"I have always been interdisciplinary in one way or another. I really enjoy working with faculty and students from other disciplines and other colleges.

"I've taught dozens of different math courses in the 15 years I have been teaching at Nebraska, and I've used computer technology in some significant way for most of them. My teaching is always project or application based and includes students doing a good deal of writing; that requires an interdisciplinary approach to teaching as well.

"As a result, I was tremendously excited about the creation of the J.D. Edwards Honors Program in Computer Science and Management. This is a focused, interdisciplinary honors program for students of exceptional ability.

The emphasis is to provide students the essential understanding of computer science on one hand and the business applications on the other. During the first two years, the students' computer science and business curriculum is blended and integrated with a lot of interdisciplinary teaching, team teaching, case study and project-based teaching. At the junior and senior level, students will work in project teams on actual business system solutions for a company. Our program is looking for strong, well-rounded students who have a solid background in college prep courses — lots of math, English with a writing concentration, and science — with interdisciplinary interests."

*Steve Dunbar is the founding director of the J.D. Edwards Honors Program in Computer Science and Management. He is pictured in front of the construction sight for the Esther L. Kauffman Academic Residential Center, the new home of the J.D. Edwards program.*



# Faculty

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**Note:** (1) Dates following names represent the year the staff member was appointed to the University of Nebraska-Lincoln faculty; (2) one asterisk (\*) represents Cooperative Extension Service faculty; (3) two asterisks (\*\*) represent College of Engineering and Technology faculty based on the Omaha campus.

## College of Agricultural Sciences and Natural Resources

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### Agricultural Economics

**Aiken, J. David**—1975; Professor, Agricultural Economics; Water Law Specialist; BA, Hastings, 1972; JD, George Washington, 1975

**Allen, John C.**—1993; Associate Professor, Rural Sociology; BS, Southern Oregon, 1978; MS, Portland State, 1983; PhD, Washington State, 1989

**Azzam, Azzeddine M.**—1987; Professor, Agricultural Economics; BS 1977, MS 1980, Wisconsin; PhD, Nebraska (Lincoln), 1984

**Conley, Dennis**—1988; Professor, Agricultural Economics; BS 1969, MS 1979, PhD 1973, Iowa State

**Fulginiti, Lilyan**—1996; Professor, Agricultural Economics; BS, Universidad Nacional del Nordeste (Argentina), 1978; MA, Pennsylvania, 1980; PhD, North Carolina State, 1987

**Giannakas, Konstantinos**—1999; Assistant Professor, Agricultural Economics; BSc, Aristotle University of Thessaloniki, 1992; MSc, Mediterranean Agricultural Institute at Chania, 1994; PhD, Saskatchewan, 1998

**Hanson, Ronald**—1974; Professor, Agricultural Economics; BS, Western Illinois, 1968; MS 1970, PhD 1972, Illinois

**Helmers, Glenn**—1965; Professor, Agricultural Economics; BS 1960, PhD 1965, Iowa State

**Johnson, Bruce**—1975; Professor, Agricultural Economics; BS 1966, MS 1968, Nebraska (Lincoln); PhD, Michigan State, 1975

**Kendrick, James G.**—1962; Professor, Agricultural Economics; BS 1954, MS 1959, PhD 1962, Ohio State

**Lynne, Gary D.**—1995; Professor, Agricultural Economics; BS 1966, MS 1969, North Dakota State; PhD, Oregon State, 1974

**Perrin, Richard K.**—1993; Professor, Agricultural Economics; BS 1960, PhD 1968, Iowa State

**Peterson, E. Wesley F.**—1990; Professor, Agricultural Economics; BA, California (Berkeley), 1967; MPA, Princeton, 1973; MA 1980, PhD 1981, Michigan State

**Pfeiffer, George H.**—1978; Associate Professor, Agricultural Economics; BS, California, 1970; MS, Wyoming, 1972; PhD, Washington State, 1976

**Royer, Jeffrey**—1990; Professor, Agricultural Economics; BS 1973, MS 1977, PhD 1978, Iowa State

**Spilker, Matt**—1994; Assistant Instructor, Agricultural Economics; BS 1986, MS 1988, UNL

**Supalla, Raymond J.**—1976; Professor, Agricultural Economics; BS, Minnesota, 1968; PhD, Michigan State, 1972

### Agricultural Leadership, Education and Communication

**Barbuto, John E. (Jay)**—1997; Assistant Professor, Agricultural Leadership, Education and Communication; BS, BA, Maine, 1990; MBA, Bentley, 1992; PhD, Rhode Island, 1997

**Barrett, Leverne A.**—1980; Professor, Agricultural Leadership, Education and Communication; BS 1962, MEd 1974, DEd 1978, Pennsylvania State

**Bell, Lloyd C.**—1979; Associate Professor, Agricultural Leadership, Education and Communication; BS 1971, MS 1980, PhD 1984, Nebraska (Lincoln)

**Blezek, Allen G.**—1976; Professor, Agricultural Leadership, Education and Communication; BS 1966, MS 1969, PhD 1973, Nebraska (Lincoln)

**Etling, Arlen W.**—1997; Professor, Agricultural Leadership, Education and Communication; BS 1967, MS 1969, Kansas State; EdD, Massachusetts, 1975

**Fritz, Susan M.**—1994; Associate Professor, Agricultural Leadership, Education and Communication; BS 1979, MEd 1989, PhD 1993, Nebraska (Lincoln)

**King, James**—1985; Associate Professor, Agricultural Leadership, Education and Communication; BS 1967, MS 1974, EdD 1981, Indiana

**Moody, Linda D.**—1994; Instructor, Agricultural Leadership, Education and Communication; BS 1988, MS 1993, Nebraska (Lincoln)

**Nugent, Gwen C.**—Visiting Associate Professor, Agricultural Leadership, Education and Communication; BA, Texas Tech, 1969; MA, Georgia, 1972; PhD, Nebraska (Lincoln), 1979

**Parsons, Gerald**—1983; Associate Professor, Agricultural Leadership, Education and Communication; BA, St. Josephs, 1963; MA, Notre Dame, 1965; PhD, Nebraska (Lincoln), 1975

**Randall, James K.**—1971; Professor, Agricultural Leadership, Education and Communication; BS 1964, MS 1969, Utah State

**Rockwell, S. Kay**—1979; Professor, Agricultural Leadership, Education and Communication; BS 1962, MA 1975, PhD 1984, Nebraska (Lincoln)

**Russell, Earl B.**—1995; Professor and Head, Agricultural Leadership, Education and Communication; BS Tennessee, 1966; MS, Illinois, 1968; PhD, Ohio State, 1971

**Wheeler, Daniel W.**—1985; Professor, Agricultural Leadership, Education and Communication; BA, Antioch, 1962; MS, Cornell, 1964; PhD, SUNY (Buffalo), 1971

### Agronomy

**Arkebauer, Timothy J.**—1989; Associate Professor, Agronomy; BS, Michigan State, 1979; MS, Florida, 1981; PhD, Nebraska (Lincoln), 1986

**Baenziger, P. Stephen**—1986; Professor, Agronomy; BS, Harvard, 1972; MS 1974, PhD 1975, Purdue

**Cassman, Kenneth G.**—1996; Professor and Head; BS, California (San Diego), 1975; PhD, Hawaii, 1979

**Clegg, Max D.**—1967; Associate Professor, Agronomy; BS, Nebraska (Lincoln), 1957; MS, Colorado, 1961; PhD, California, 1967

**Drijber, Rhae A.**—1994; Assistant Professor, Agronomy; BS 1982, MS 1986, British Columbia; PhD, Alberta, 1993

**Dweikat, Ismail**—1999; Assistant Professor, Agronomy; BS 1981, MS 1983, PhD 1988, Florida

**Eastin, Jerry D.**—1961; Professor, Agronomy; BS 1953, MS 1955, Nebraska (Lincoln); PhD, Purdue, 1960

**Francis, Charles A.**—1977; Professor, Agronomy; BS, California (Berkeley), 1961; MS 1967, PhD 1970, Cornell

**Gill, Kulvinder S.**—1996; Assistant Professor, Agronomy; BS 1981, MS 1983, Punjab Ag Univ (India); PhD, Kansas State, 1990

**Graef, George L.**—1988; Associate Professor, Agronomy; BS, Connecticut, 1982; MS 1984, PhD 1988, Iowa State

**Lee, Donald J.**—1989; Associate Professor, Agronomy; BA, Augustana, 1981; MS, South Dakota State, 1985; PhD, Montana State, 1988

**Lindquist, John L.**—1997; Assistant Professor, Agronomy; BS, Montana State, 1988; MS, Minnesota, 1994; PhD, Nebraska (Lincoln), 1997

**Mackenzie, Sally**—1999; Professor, Agronomy; BS, California (Davis), 1981; MS 1984, PhD 1986, Florida

**Maranville, Jerry W.**—1967; Professor, Agronomy; BS 1962, MS 1964, Colorado State; PhD, Kansas State, 1967

**Mason, Stephen C.**—1984; Professor, Agronomy; BS, Missouri, 1971; MS 1976, PhD 1983, Purdue

**Masengale, Martin A.**—1976; Professor, Agronomy; BS, Western (Kentucky), 1952; MS 1954, PhD 1956, Wisconsin

**McCallister, Dennis L.**—1980; Associate Professor, Agronomy; BS, Notre Dame, 1972; MS, Ohio State, 1977; PhD, Texas A&M, 1981

**Mortensen, David A.**—1987; Professor, Agronomy; BA, Drew, 1978; MS, Duke, 1983; PhD, North Carolina, 1987

**Moser, Lowell E.**—1970; Professor, Agronomy; BS, Ohio State, 1962; MS, Kansas State, 1964; PhD, Ohio State, 1967

**Namuth, Deana**—1999; Lecturer, Agronomy; BS, Nebraska (Lincoln), 1990; MS 1992, PhD 1998, Colorado State

**Nelson, Darrell W.**—1984; Professor, Agronomy; Dean, Agricultural Research Division; Director, Nebraska Agricultural Experiment Station; BS 1961, MS 1963, Illinois; PhD, Iowa State, 1967

**Powers, William L.**—1988; Professor, Agronomy; BS, Colorado State, 1958; MS 1962, PhD 1966, Iowa State

**Russell, W. Ken**—1999; Assistant Professor, Agronomy; BA 1976, MS 1977, Iowa State; PhD, North Carolina State, 1981

**Schacht, Walter H.**—1994; Professor, Agronomy; BS, Dana, 1975; MS, Nebraska (Lincoln), 1981; PhD, Utah State, 1987

**Specht, James E.**—1974; Professor, Agronomy; BS, Nebraska (Lincoln), 1967; MS, Illinois, 1971; PhD, Nebraska (Lincoln), 1974

**Stubbendieck, James L.**—1974; Professor, Agronomy; BS 1966, MS 1968, Nebraska (Lincoln); PhD, Texas A&M, 1974

**Waldren, Richard P.**—1974; Professor, Agronomy; BS 1969, MS 1973, Kansas State; PhD, Nebraska (Lincoln), 1977

**Waller, Steven S.**—1978; Associate Dean, College of Agricultural Sciences and Natural Resources; Assistant Dean, Agricultural Research Division; Professor, Agronomy; AS, Vincennes, 1967; BS, Purdue, 1970; PhD, Texas A&M, 1975

**Walters, Daniel T.**—1984; Associate Professor, Agronomy; BS 1973, MS 1975, Illinois; PhD, Minnesota, 1984

### Animal Science

**Anderson, Kathleen P.**—1991; Associate Professor, Animal Science; BS, Nebraska (Lincoln), 1981; MS, Texas A&M, 1987; PhD, Kansas State, 1991

**Beck, Mary M.**—1980; Professor, Animal Science; BA, Virginia (Richmond), 1968; MS 1976, PhD 1980, Maryland

**Beermann, Donald H.**—1999; Professor and Head, Animal Science; BS, Iowa State, 1971; MS 1974, PhD 1976, Wisconsin

**Brink, Dennis R.**—1978; Professor, Animal Science; BS 1971, MS 1975, PhD 1978, Kansas State

**Burson, Dennis E.**—1984; Associate Professor, Animal Science; BS, Nebraska (Lincoln), 1977; MS 1979, PhD 1985, Kansas State

**Calkins, Chris R.**—1981; Professor, Animal Science; BS, Texas A&M, 1976; MS, Tennessee, 1978; PhD, Texas A&M, 1981

**Ellington, Earl E.**—1968; Professor, Animal Science; BS 1956, MS 1957, Kentucky; PhD, California, 1962

**Gilster, Keith E.**—1972; Professor, Animal Science; BS 1965, MS 1967, Nebraska (Lincoln); PhD, South Dakota State, 1972

**Gosey, James A.**—1971; Professor, Animal Science; BS, Oklahoma State, 1965; MS, New Mexico State, 1967; PhD, Nebraska (Lincoln), 1976

**Johnson, Rodger K.**—1978; Professor, Animal Science; BS, North Dakota State, 1965; MS 1971, PhD 1973, Oklahoma State

**Jones, Steven J.**—1984; Associate Professor, Animal Science; BS, Utah, 1978; MS, Arizona, 1980; PhD, Purdue, 1984

**Kittok, Roger J.**—1977; Associate Professor, Animal Science; BS, Minnesota, 1971; MS 1974, PhD 1977, Michigan State

**Klopfenstein, Terry J.**—1965; Professor, Animal Science; BS 1961, MS 1963, PhD 1965, Ohio State

**Larson, Larry L.**—1972; Associate Professor, Animal Science; BS 1962, MS 1965, PhD 1968, Kansas State

**Lewis, Austin J.**—1977; Professor, Animal Science; BS, Reading (England), 1967; PhD, Nottingham (England), 1971

**Mandigo, Roger W.**—1966; Professor, Animal Science; BS, California State Poly (Pomona), 1961; MS, New Mexico State, 1963; PhD, Oklahoma State, 1967

**Miller, Phillip S.**—1990; Associate Professor, Animal Science; BS 1984, MS 1988, PhD 1990, California—Davis

**Milton, C. Todd**—1996; Assistant Professor, Animal Science; BS, Tennessee (Martin), 1991; MS 1995, PhD 1996, Kansas State

**Miner, Jess L.**—1996; Assistant Professor, Animal Science; BS, Nebraska (Lincoln), 1984; MS, Montana State, 1986; PhD, Missouri, 1989

**Nielsen, Merlyn K.**—1974; Professor, Animal Science; BS, Nebraska (Lincoln), 1970; MS 1972, PhD 1974, Iowa State

**Pomp, Daniel H.**—1995; Associate Professor, Animal Science; BS, Hebrew University of Jerusalem, 1983; MS, Wisconsin, 1986; PhD, North Carolina, 1989

**Reese, Duane E.**—1984; Associate Professor, Animal Science; BS 1977, MS 1979, Ohio State; PhD, Nebraska (Lincoln), 1983

**Scheideeler, Sheila E.**—1992; Professor, Animal Science; BS 1981, MS 1982, Nebraska (Lincoln); PhD, Iowa State, 1986

**Van Vleck, L. Dale**—1988; Professor, Animal Science; BS 1954, MS 1955, Nebraska (Lincoln); PhD, Cornell, 1960

## Biometry

**Blankenship, Erin**—1999; Assistant Professor Biometry; BS, / Truman State, 1994; MS 1996, PhD 1999, North Carolina State

**Eskridge, Kent**—1983; Associate Professor, Biometry; BA and BS 1976, MA 1981, Missouri; PhD, Nebraska (Lincoln), 1987

**Kachman, Stephen D.**—1990; Associate Professor, Biometry; BS, Michigan State, 1981; MS, Illinois, 1986; PhD, Montana State, 1988

**Marx, David B.**—1989; Professor and Head, Biometry; BA, Ohio, 1968; MA, Missouri, 1970; PhD, Kentucky, 1977

**Parkhurst, Anne M.**—1972; Professor, Biometry; BA, Virginia, 1962; MS, Yale, 1965; PhD, Nebraska (Lincoln), 1992

**Stroup, Walter W.**—1979; Professor, Biometry; BA, Antioch, 1973; MS 1975, PhD 1979, Kentucky

**Young, Linda J.**—1990; Professor, Biometry; BS 1974, MS 1976, West Texas State; PhD, Oklahoma State, 1981

## Entomology

**Berkebile, Dennis R.**—1996; Assistant Professor, Entomology; BS, Missouri (Kansas City), 1975; BS 1978, MS 1981, Missouri (Columbia); PhD, Nebraska (Lincoln), 1995

**Danielson, Stephen D.**—1988; Associate Professor, Entomology; BS, Nebraska (Lincoln), 1974; MS, Oregon State, 1976; PhD, Nebraska (Lincoln), 1987

**Ellis, Marion D.**—1995; Assistant Professor, Entomology; BS 1972, MS 1974, Tennessee; PhD, Nebraska (Lincoln), 1994

**Foster, John E.**—1990; Professor, Entomology; BA, Central Methodist, 1964; MS, Missouri, 1966; PhD, Purdue, 1971

**Higley, Leon G.**—1989; Professor, Entomology; BA, Cornell, 1980; MS 1984, PhD 1988, Iowa State

**Keith, David L.**—1967; Professor, Entomology; BS, Gustavus Adolphus, 1962; MS, Minnesota, 1965; PhD, Nebraska (Lincoln), 1971

**Mayo, Z. B.**—1972; Professor and Head, Entomology; BS, Texas Tech, 1967; MS 1969, PhD 1971, Oklahoma State

**Meinke, Lance J.**—1984; Associate Professor, Entomology; BS, North Dakota State, 1975; MS, Arizona, 1977; PhD, North Carolina State, 1984

**Siegfried, Blair D.**—1990; Associate Professor, Entomology; BS, Lockhaven, 1981; MS, Florida, 1984; PhD, Penn State, 1988

**Skoda, Steven R.**—1992; Assistant Professor, Entomology; BS, Kearney State, 1982; MS 1985, PhD 1992, Nebraska (Lincoln)

**Stanley, David W.**—1989; Professor, Entomology; BA, California State-Fullerton, 1975; PhD, California (Berkeley), 1983

## Food Science and Technology

**Benson, Andrew K.**—1996; Assistant Professor, Food Science and Technology; BS, Iowa State, 1986; PhD, Texas (San Antonio), 1992

**Brashears, Mindy M.**—1997; Assistant Professor, Food Science and Technology; BS, Texas Tech, 1992; MS 1994, PhD 1997, Oklahoma State

**Bullerman, Lloyd B.**—1970; Professor, Food Science and Technology; BS 1961, MS 1965, South Dakota; PhD, Iowa State, 1968

**Cuppett, Susan L.**—1985; Professor, Food Science and Technology; BS 1968, MS 1970, West Virginia; PhD, Michigan State, 1985

**Hefle, Susan L.**—1999; Assistant Professor, Food Science and Technology; BS 1982, MS 1987, PhD 1991, Wisconsin (Madison)

**Hutkins, R. W.**—1987; Associate Professor, Food Science and Technology; BS 1979, MS 1980, Missouri; PhD, Minnesota, 1984

**Jackson, David S.**—1989; Associate Professor, Food Science and Technology; BS, Cornell, 1984; MS 1986, PhD 1988, Texas A&M

**McKee-Hensarling, Shelly R.**—1998; Assistant Professor, Food Science and Technology; BS 1990, MS 1994, PhD 1997, Texas A&M

**Meagher, Michael M.**—1989; Associate Professor, Food Science and Technology and Biological Systems Engineering; BS, Colorado State, 1980; MS 1984, PhD 1987, Iowa State

**Rupnow, John**—1979; Professor, Food Science and Technology; BS, Wisconsin, 1967; MSE, Illinois, 1973; PhD, Purdue, 1976

**Schlegel, Vicki**—1998; Assistant Professor, Food Science and Technology; BA, Union College (Lincoln), 1984; MS, Nebraska (Lincoln), 1987; PhD, Iowa State, 1990

**Smith, Durward A.**—1989; Associate Professor, Food Science and Technology; BS, Idaho, 1972; MS 1973, PhD 1976, Louisiana State

**Taylor, S. L.**—1987; Professor and Head, Food Science and Technology; BS 1968, MS 1969, Oregon State; PhD, California, 1973

**Wehling, Randy L.**—1983; Professor, Food Science and Technology; BS 1976, MS 1980, PhD 1983, Kansas State

**Zeece, Michael G.**—1984; Professor, Food Science and Technology; BS, St. Louis, 1968; MS, Illinois, 1972; PhD, Iowa State, 1984

## School of Natural Resource Sciences

**Blad, Blaine L.**—1970; Professor, School of Natural Resource Sciences; BS, Brigham Young, 1964; MS 1968, PhD 1970, Minnesota

**Brandle, James R.**—1975; Professor, School of Natural Resource Sciences; BS, Tennessee, 1966; MS 1970, PhD 1974, Missouri

**Case, Ronald M.**—1972; Professor, School of Natural Resource Sciences; AB, Ripon College, 1962; MS, Illinois, 1964; PhD, Kansas State, 1971

**Comfort, Steven D.**—1992; Associate Professor, School of Natural Resource Sciences; BS, Wisconsin (Madison), 1981; MS, Minnesota (St. Paul), 1984; PhD, Wisconsin (Madison), 1988

**Dewey, Kenneth E.**—1973; Professor, School of Natural Resource Sciences; BA, Elmhurst, 1969; MS, Northern Illinois, 1970; PhD, Toronto, 1973

**Gosselin, David C.**—1989; Associate Professor, School of Natural Resource Sciences and Conservation & Survey Division; BA, St. Thomas, 1982; PhD, South Dakota School of Mines & Technology, 1987

**Harvey, F. Edwin**—1996; Assistant Professor, School of Natural Resource Sciences and Conservation & Survey Division; BS, Olivet Nazarene, 1986; MS, Purdue, 1990; PhD, Waterloo (Ontario), 1996

**Hayes, Michael**—1995; Assistant Professor, School of Natural Resource Sciences; BS, Wisconsin, 1986; MS 1989, PhD 1994, Missouri

**Hergenrader, Gary L.**—1967; Professor, School of Natural Resource Sciences; Professor, Biological Sciences; State Forester; BS, Nebraska (Lincoln), 1961; MS 1963, PhD 1967, Wisconsin

**Hoagland, Kyle D.**—1990; Professor, School of Natural Resource Sciences; BS, Michigan State, 1973; MS, Eastern Michigan, 1975; PhD, Nebraska (Lincoln), 1981

**Hu, Qi (Steve)**—1999; Assistant Professor, School of Natural Resource Sciences; BS, Lanzhou (China), 1982; MS 1986, PhD 1992, Colorado State

**Hubbard, Kenneth G.**—1981; Professor, School of Natural Resource Sciences; Director HPCC; BS, Chadron State, 1971; MS, South Dakota School of Mines and Technology, 1973; PhD, Utah State, 1981

**Hygnstrom, Scott E.**—1988; Associate Professor, School of Natural Resource Sciences; BS, Wisconsin-River Falls, 1980; MS, Wisconsin-Stevens Point, 1983; PhD, Wisconsin-Madison, 1988

**Johnson, Ron J.**—1979; Professor, School of Natural Resource Sciences; BS 1968, MS 1973, Ohio State; PhD, Cornell, 1979

**Josiah, Scott S.**—1998; Assistant Professor, School of Natural Resource Sciences; BS, State University of New York, 1975; MS, Southern Illinois, 1986; PhD, Minnesota, 1996

**Kamble, Shripat T.**—1978; Professor, School of Natural Resource Sciences; BS 1964, MS 1966, Nagpur (India); PhD, North Dakota State, 1974

**Kuzelka, Robert D.**—1979; Associate Professor, School of Natural Resource Sciences; BS, Nebraska (Lincoln), 1962; MS, Texas (Austin), 1967

**Meyer, Steven J.**—1993; Assistant Professor, School of Natural Resource Sciences; BS, Northern Illinois, 1983; MS 1986, PhD 1990, Nebraska (Lincoln)

**Narumalani, Sunil**—1993; Associate Professor, School of Natural Resource Sciences; MA, Georgia, 1989; PhD, South Carolina, 1993

**Peters, Edward J.**—1975; Associate Professor, School of Natural Resource Sciences; BS, Wisconsin State-Stevens Point, 1967; MS 1970, PhD 1974, Brigham Young

**Rundquist, Donald C.**—1982; Professor, School of Natural Resource Sciences; Director, Center for Advanced Land Management Information Technologies (CALMIT), Conservation & Survey Division; BS, Wisconsin (Whitewater), 1967; MA, Nebraska (Omaha), 1971; PhD, Nebraska (Lincoln), 1977

**Shea, Patrick J.**—1981; Professor, School of Natural Resources Sciences; BS, Fordham, 1975; MS, Connecticut, 1979; PhD, North Carolina State, 1981

**Skopp, Joseph M.**—1980; Associate Professor, School of Natural Resources Sciences; BS, California (Davis), 1971; MS, Arizona, 1975; PhD, Wisconsin, 1980

**Spalding, Mary Exner**—1974; Professor, School of Natural Resources Sciences; BS, Chestnut Hill, 1970; MS, Texas A&M, 1972

**Spalding, Roy E.**—1974; Professor, School of Natural Resources Sciences; Associate Director, Water Center/Environmental Programs; Director, Water Sciences Laboratory; BA, Kenyon, 1966; MS, North Carolina, 1968; PhD, Texas A&M, 1972

**Verma, Shashi B.**—1974; Professor, School of Natural Resource Sciences; Director, CLAS; BS, Ranchi (India), 1965; MS, Colorado, 1967; PhD, Colorado State, 1971

**Vitzthum, Edward E.**—1974; Associate Professor, School of Natural Resource Science; BS, Creighton (Omaha), 1958; MA 1974, PhD 1982 Nebraska (Lincoln)

**Walter-Shea, Elizabeth A.**—1989; Associate Professor, School of Natural Resource Sciences; BS, Central Arkansas, 1978; MS, Texas A&M, 1981; PhD, Nebraska (Lincoln), 1987

**Wedin, David A.**—1998; Assistant Professor, School of Natural Resource Sciences; BA, St. Olaf College, 1981; PhD, Minnesota, 1990

**Weiss, Albert**—1974; Professor, School of Natural Resource Sciences; BS, City College of New York, 1962; MS, Rutgers, 1969; PhD, Cornell, 1975

**Wilhite, Donald A.**—1977; Professor, School of Natural Resource Sciences; Director, IDIC and NDMC; BS, Central Missouri State, 1967; MS, Arizona State, 1969; PhD, Nebraska (Lincoln), 1975

**Workmen, Sarah**—1996; Assistant Professor, School of Natural Resource Sciences; BA, Agnes Scott, 1978; MS, Western Washington, 1982; PhD, Georgia, 1996

## Horticulture

**Austin, R. L.**—1980; Associate Professor, Horticulture; BS, Texas Tech, 1967; MS, North Texas, 1972

**Coyne, D. P.**—1961; Professor, Horticulture; BS 1953, MS 1954, Ireland (Dublin); PhD, Cornell, 1958

**Davis, Gregory L.**—1996; Assistant Professor, Horticulture; BS 1979, MS 1988, PhD 1993, Kansas State

**Fitzgerald, Jay B.**—1980; Professor, Horticulture; BS 1965, MS 1969, Texas Tech; PhD, Texas A&M, 1976

**Gauvin, Roch E.**—1991; Associate Professor, Horticulture; BS 1980, MS 1983, New Mexico State; PhD, Michigan State, 1988

**Gustafson, William A., Jr.**—1977; Professor, Horticulture; BS 1971, MS 1973, Kansas State; PhD, Texas A&M, 1978

**Hodges, Laurie**—1989; Assistant Professor, Horticulture; BS, New Hampshire, 1972; MS, Arkansas, 1978; PhD, Auburn, 1984

**Horst, Gerald L.**—1990; Associate Professor and Interim Head, Horticulture; BS 1967, MS 1969, Nebraska (Lincoln); PhD, Missouri, 1973

**Paparozzi, Ellen T.**—1981; Associate Professor, Horticulture; BS, Rutgers, 1976; MS 1978, PhD 1980, Cornell

**Read, Paul E.**—1987; Professor and Head, Horticulture; BS 1959, MS 1964, Cornell; PhD, Delaware, 1967

**Riordan, Terrance P.**—1978; Professor, Horticulture; BS 1965, MS 1968, PhD 1970, Purdue

**Rodie, Steven N.**—1994; Assistant Professor, Horticulture; Registered Landscape Architect; BS, Colorado State, 1977; MLA, Kansas State, 1985

**Shearman, Robert C.**—1974; Professor, Horticulture and Agronomy; Turf Specialist; BS, Oregon, 1967; MS 1971, PhD 1973, Michigan State

**Smith, D. A.**—1989; Associate Professor, Horticulture; BA, Washington, 1970; BA, Idaho, 1972; MS 1973, PhD 1976, Louisiana State

**Steinegger, D. H.**—1975; Professor, Horticulture; Extension Horticulturist; BS, Wisconsin, 1958; MS 1960, PhD 1965, UCLA

**Sutton, R. K.**—1975; Associate Professor, Horticulture; Registered Landscape Architect; BS, Colorado State, 1970; MLA, Utah State, 1974; PhD, Wisconsin (Madison), 1997

## Plant Pathology

**Dickman, Martin B.**—1987; Professor, Plant Pathology (Biological Sciences); BS 1979, MS 1982, PhD 1986, Hawaii

**French, Roy C.**—1987; Adjunct Associate Professor, Plant Pathology (Biological Sciences); BS, Colorado State, 1977; PhD, Louisiana State, 1983

**Giesler, Loren J.**—1999; Assistant Professor, Plant Pathology (Biological Sciences); BA, Chadron State, 1992; MS 1994, PhD 1998, Nebraska (Lincoln)

**Harveson, Robert M.**—1999; Assistant Professor, Plant Pathology (Biological Sciences); BA, Trinity, 1983; BS, Tarleton State, 1985; MS, Texas A&M, 1989; PhD, Florida, 1999

**Lane, Leslie C.**—1975; Associate Professor, Plant Pathology (Biological Sciences); BS 1965, PhD 1971, Wisconsin (Madison)

**Mitra, Amitava**—1989; Associate Professor, Plant Pathology, Biological Sciences and Biometry; BS 1977, MS 1980, PhD 1985, Montana

**Partridge, James**—1978; Associate Professor, Plant Pathology (Biological Sciences); BS 1966, PhD 1973, California (Riverside)

**Powers, Thomas O.**—1985; Associate Professor, Plant Pathology (Biological Sciences); BS, Purdue, 1976; MS, Florida, 1979; PhD, California (Riverside), 1983

**Stack, James P.**—1997; Assistant Professor, Plant Pathology (Biological Sciences); BS 1976, MS 1978, Massachusetts; PhD, Cornell, 1984

**Steadman, James R.**—1969; Professor, Plant Pathology (Biological Sciences); BA, Hiram, 1964; MS 1968, PhD 1970, Wisconsin (Madison)

**Stenger, Drake C.**—1997; Adjunct Assistant Professor, Plant Pathology (Biological Sciences); BS, California State, 1981; MS 1983, PhD 1987, California (Berkeley)

**Van Etten, James L.**—1966; Professor, Plant Pathology (Biological Sciences); BA, Carleton, 1960; MS 1963, PhD 1965, Illinois

**Vidaver, Anne K.**—1966; Professor and Head, Plant Pathology (Biological Sciences); BA, Russell Sage, 1960; MA 1962, PhD 1965, Indiana

**Watkins, John E.**—1975; Professor, Plant Pathology (Biological Sciences); BS 1968, MS 1970, Wyoming; PhD, North Dakota State, 1975

**Yuen, Gary Y.**—1989; Associate Professor, Plant Pathology (Biological Sciences); BS 1977, MS 1980, PhD 1984, California (Berkeley)

## Veterinary and Biomedical Sciences

**Barletta, Raul G.**—1991; Associate Professor, Veterinary and Biomedical Sciences; BS 1976, MS 1976, Universidad Nacional de La Plata (Argentina); PhD, Alabama-Birmingham, 1987

**Brodersen, Bruce**—1991; Research Assistant Professor, Veterinary and Biomedical Sciences; BS, Nebraska (Lincoln), 1978; DVM, Iowa State, 1983; MS 1989, PhD 1996, Nebraska (Lincoln)

**Cirillo, Jeffrey D.**—1998; Assistant Professor, Veterinary and Biomedical Sciences; BS, Pitzer, 1986; MS 1989, PhD 1992, Albert Einstein

**Dewell, Grant**—1998; Lecturer, Veterinary and Biomedical Sciences; DVM 1993, MS 1998, Colorado State

**Donis, Ruben O.**—1989; Associate Professor, Veterinary and Biomedical Sciences; MV, Buenos Aires, 1978; PhD, Cornell, 1986

**Doster, Alan R.**—1979; Professor, Veterinary and Biomedical Sciences; DVM, Iowa, 1975; MS 1976, PhD 1979, Georgia (Athens)

**Duhamel, Gerald E.**—1986; Professor, Veterinary and Biomedical Sciences; BSci 1975, DVM 1980, Montreal; PhD, California (Davis), 1986

**Gray, Jeffrey T.**—1998; Assistant Professor, Veterinary and Biomedical Sciences; BS 1990, MS 1992, Nebraska (Lincoln); PhD, Iowa State, 1995

**Griffin, D. Dee**—1991; Associate Professor, Veterinary and Biomedical Sciences; BS 1973, DVM 1975, Oklahoma State; MS, Purdue, 1978

**Groteleuschen, Dale M.**—1985; Professor, Veterinary and Biomedical Sciences; DVM, Missouri, 1974; MS, Colorado State, 1992

**Hungerford, Laura**—1997; Associate Professor, Veterinary and Biomedical Sciences; BS 1978, DVM 1980, Michigan State; MPH 1987, PhD 1989, Illinois

**Jones, Clinton J.**—1989; Professor, Veterinary and Biomedical Sciences; BS, Bethany College, 1976; PhD, Kansas, 1984

**Kelling, Clayton, L.**—1976; Professor, Veterinary and Biomedical Sciences; BS 1968, MS 1971, PhD 1975, North Dakota State; DVM, Iowa State, 1987

**Lou, Marjorie F.**—1994; Professor, Veterinary and Biomedical Sciences; BS, National (Taiwan), 1960; MS, Virginia Tech, 1962; PhD, Boston University Medical Center, 1966

**Moxley, Rodney A.**—1983; Professor, Veterinary and Biomedical Sciences; DVM 1978, PhD 1983, Missouri

**Osorio, Fernando A.**—1984; Professor, Veterinary and Biomedical Sciences; NU, Buenos Aires, 1971; MS 1982, PhD 1984, Iowa State

**Rogers, Douglas G.**—1988; Associate Professor, Veterinary and Biomedical Sciences; BS 1973, DVM 1979, PhD 1987, Iowa State

**Rupp, Gary P.**—1988; Professor, Veterinary and Biomedical Sciences; DVM 1964, MS 1975, Colorado State

**Schmitz, John A.**—1984; Professor and Head, Veterinary and Biomedical Sciences; DVM, Colorado State, 1964; PhD, Missouri, 1971

**Schneider, Norman R.**—1979; Associate Professor, Veterinary and Biomedical Sciences; BS 1967, DVM 1968, Kansas State; MS, Ohio State, 1972

**Sherman, Gary**—1997; Assistant Professor, Veterinary and Biomedical Sciences; BS, Rhode Island, 1975; MS 1978, DVM 1984, PhD 1988, Illinois

**Smith, David**—1997; Assistant Professor, Veterinary and Biomedical Sciences; BS 1980, DVM 1983, PhD 1996, Ohio State

**Srikumaran, Subramaniam**—1984; Professor, Veterinary and Biomedical Sciences; BVSc, Sri Lanka, 1972; MS 1981, PhD 1982, Maryland

**Steffen, David**—1995; Associate Professor, Veterinary and Biomedical Sciences; BS, Nebraska (Lincoln), 1983; DVM, Iowa State, 1987; PhD, Kansas State, 1991

**Wallner-Pendleton, Eva**—1989; Associate Professor, Veterinary and Biomedical Sciences; DVM, Hungary, 1979; MS, Oregon State, 1986

**Wills, Robert**—1996; Assistant Professor, Veterinary and Biomedical Sciences; MS, Tennessee, 1980; DVM, Missouri, 1984; PhD, Iowa State, 1996

## College of Architecture

**Ankerson, Katherine**—1996; Assistant Professor, Architecture; BS 1978, BArch 1979; MS 1994, Washington State

**Benson, John A.**—1962; Associate Professor, Director of Institutional Research and Planning; Registered Architect; BArch 1960, MArch 1961, Illinois

**Borner, William L.**—1972; Professor, Architecture; Registered Architect; BArch, Western Reserve, 1967; MArch, Michigan, 1968

**Cantarero, Rodrigo E.**—1989; Associate Professor and Department Chair, Community & Regional Planning; BS, Iowa State, 1975; MA (Plng) 1979, MA (Econ) 1980, Iowa; PhD, USC, 1988

**Case, F. Duncan**—1991; Associate Professor, Architecture; AB 1968, PhD 1975, Princeton

**Cronrath, David**—1994; Professor and Department Chair, Architecture; Registered Architect; BArch, Pennsylvania State, 1971; MArch, California (Berkeley), 1976

**Drummond, R. Wayne**—2000; Professor, Architecture; Dean, College of Architecture; Registered Architect; FAIA; BArch, Louisiana State, 1968; MArch, Rice, 1969

**Duncan, Robert I.**—1976; Professor and Vice Chair, Architecture; BS Arch, Kansas, 1960; MArch, Iowa State, 1968

**Ertl, Ted A.**—1974; Associate Professor, Architecture; Registered Architect; BArch 1969, MArch 1975, Colorado

**Gabb, Betsy S.**—1986; Associate Professor, Architecture; BS, Nebraska (Lincoln), 1970; MA, Minnesota (Minneapolis), 1972; EdD, Nebraska (Lincoln), 1982

**Gaber, John**—1995; Assistant Professor, Community & Regional Planning; BA, UCLA, 1986; MPlanng, USC, 1988; PhD, Columbia, 1993

**Gaber, Sharon L.**—1991; Hyde Associate Professor, Community & Regional Planning; AB, Occidental, 1985; MPlanng, USC, 1987; PhD, Cornell, 1993

**Handa, Rumiko**—1996; Assistant Professor, Architecture; BArch, Tokyo, 1979; MArch 1983, MSArch 1985, PhD 1992, Pennsylvania

**Hinchman, Mark A.**—1998; Assistant Professor, Architecture; BArch, Notre Dame, 1983; MArch, Cornell, 1987; MA, Chicago, 1995

**Hoistad, Mark A.**—1989; Associate Professor and Interim Associate Dean, Architecture; Registered Architect; BArch, Georgia Institute of Technology, 1977; MArch, Houston, 1983

**Hulvershorn, J. Kip**—1973; Associate Professor, Community & Regional Planning; AICP; BS 1965, MS 1966, Indiana; PhD, Nebraska (Lincoln), 1977

**Krug, Nathan S.**—1991; Associate Professor, Architecture; Registered Architect; BEd, Kansas, 1973; MArch, UCLA, 1976

**Kuska, Sharon S.**—1986; Associate Professor and Interim Associate Dean, Architecture; Professional Engineer; BSAS 1982, MS 1984, PhD 1993, Nebraska (Lincoln)

**Laging, Thomas S.**—1967; Professor, Architecture; Registered Architect; BArch, Nebraska (Lincoln), 1963; MArch, Harvard, 1966

**Luther, Joseph**—1983; Hyde Professor, Community & Regional Planning; BA, Eastern Washington, 1972; MUP 1973, DED 1975, Texas A&M

**Maller, Alexander**—1988; Douglas Professor, Architecture; Registered Architect; BArch and Town Planning 1968, MArch and Town Planning 1975, Israel Institute of Technology (Haifa)

**Matthews, Carl W.**—1993; Associate Professor, Architecture; BS, Oklahoma State, 1983; MS, Pratt Institute, 1993

**Mutunayagam, N. Brito**—1981; Professor, Community & Regional Planning and Architecture; BS, Kerala (India), 1963; DTCP, School of Planning & Architecture (New Delhi, India), 1967; MEngg, AIT (Bangkok, Thailand), 1974; DEDP VPI and SU, 1981

**Potter, James J.**—1981; Professor, Architecture; Registered Architect; BS-Arch Eng, California Polytechnic State, 1964; MArch, SUNY (Buffalo), 1973; PhD, Pennsylvania State, 1982

**Rex, Brian**—1999; Assistant Professor, Architecture; BArch, Carleton, 1993; MS AAD, Columbia, 1994; BS, Texas (Arlington), 1999

**Sawyers, H. Keith**—1958; Professor, Architecture; BArch, Iowa State, 1958; MArch, California (Berkeley), 1966

**Scholz, Gordon P.**—1975; Professor, Community & Regional Planning; Registered Architect, AICP; BArch, Nebraska (Lincoln), 1968; MArch & MUP, Illinois (Urbana), 1971; MBA, Nebraska (Omaha), 1974

**Steward, W. Cecil**—1974; Professor, Architecture; Registered Architect; FAIA; BArch, Texas A&M, 1957; MS, Columbia, 1961; Hon. DHL, Drury College, 1991

**Watson, Jenifer**—1996; Assistant Professor, Architecture; BA 1986, BArch 1992, Rice

**Yan, Xiaoying Winston**—1990; Associate Professor, Architecture; DIP 1978, MArch 1982, Southeast (P.R. China); DArch, Michigan, 1990

**Awakuni-Swetland, Mark**—1999; Lecturer, Anthropology; BA 1994, MA 1996, Nebraska (Lincoln)

**Bleed, Peter A.**—1972; Professor, Anthropology; BA 1965, MA 1968, Minnesota; PhD, Wisconsin, 1973

**Draper, Patricia**—1998; Professor and Chair, Anthropology; BA, Vassar, 1964; MA 1965, PhD 1972, Harvard

**Foster, Brian L.**—1994; Professor, Anthropology; Dean of College of Arts & Sciences, BA, Northern Illinois, 1967; MA 1968, PhD 1972, Michigan

**Hames, Raymond**—1980; Professor, Anthropology; BA 1971, PhD 1978, California (Santa Barbara)

**Hitchcock, Robert K.**—1987; Associate Professor, Anthropology; BA, California (Santa Barbara) 1971; PhD, New Mexico, 1982

**McCollough, Martha**—1996; Assistant Professor, Anthropology and Native American Studies; BS 1982, MA 1988, Alaska; PhD, Oklahoma, 1996

**Reinhard, Karl**—1989; Associate Professor, Anthropology and Natural Resources; BA, Arizona, 1978; MS, Northern Arizona, 1984; PhD, Texas, 1988

**Wandsnider, LuAnn**—1991; Associate Professor, Anthropology; BS, Wisconsin, 1979; MS, New Mexico, 1981; PhD, New Mexico, 1989

## Biochemistry

**Allison, Lori A.**—1996; Assistant Professor, Biochemistry; BS 1984, PhD 1990, Toronto

**Banerjee, Ruma V.**—1991; Associate Professor, Biochemistry; BS, Delhi, 1980; MS, Delhi, 1982; PhD, RPI Troy, NY, 1987

**Chollet, Raymond**—1977; Professor, Biochemistry; BA, Colgate, 1968; MS 1969, PhD 1972, Illinois

**Gladyshev, Vadim N.**—1998; Assistant Professor, Biochemistry; MS 1988, PhD 1992, Moscow State

**Klucas, Robert V.**—1969; Professor, Biochemistry; BS, South Dakota State, 1962; MS 1964, PhD 1967, Wisconsin

**Markwell, John P.**—1982; Professor, Biochemistry; BA, North Park (Chicago), 1970; PhD, Michigan State, 1976

**Price, Carolyn**—1988; Associate Professor, Biochemistry; BS, St Andrews (Scotland), 1977; PhD, Colorado Medical Center, 1981

**Ragsdale, Stephen W.**—1991; Professor, Biochemistry; BS 1979, PhD 1983, Georgia

**Spreitzer, Robert J.**—1984; Professor, Biochemistry; BS, Cleveland State, 1974; PhD, Case Western Reserve, 1980

**Weeks, Donald P.**—1989; Professor, Biochemistry and Biological Sciences; BS, Purdue, 1963; PhD, Illinois, 1967

**Wood, Charles**—1996; Professor, 3M/Lewis Lehr Endowed Chair, Biochemistry and Biological Sciences; BA, Kansas, 1975; MA 1976, MPhil 1976, PhD 1981, Columbia

## Biological Sciences

**Atkin, Audrey L.**—1996; Assistant Professor, Biological Sciences; BS, Guelph, 1985; PhD, Alberta, 1992

**Bachman, Gwen**—1998; Assistant Professor, Biological Sciences; BA, California (San Diego), 1983; PhD, UCLA, 1992

**Ballinger, Royce**—1976; Professor, Biological Sciences; BA, Texas (Austin), 1964; MS, Texas Tech, 1967; PhD, Texas A&M, 1971

**Basolo, Alexandra L.**—1994; Associate Professor, Biological Sciences; BA, California (San Diego); MA, San Francisco State; PhD, Texas (Austin)

**Blum, Paul**—1990; Associate Professor, Biological Sciences; BA, California (Berkeley), 1976; PhD, California (Davis), 1984

**Bolick, Margaret**—1978; Associate Professor, Museum Affiliate of Biological Sciences and Anthropology (Curator of Botany); BS 1972, MA 1974, Duke; PhD, Texas (Austin), 1978

**Boohar, Richard K.**—1967; Associate Professor, Biological Sciences; BA, Drew, 1957; MA 1960, PhD 1966, Wisconsin

**Cerutti, Heriberto D.**—1997; Assistant Professor, Biological Sciences; Ingeniero Agronomi, Universidad Nacional Del Litoral (Argentina), 1983; PhD, Cornell, 1992

**Chia, Catherine**—1991; Associate Professor, Biological Sciences; AB, Cornell, 1977; PhD, Michigan State, 1986

**Christensen, Alan C.**—1994; Associate Professor, Biological Sciences; BS 1976, BS 1977, PhD 1982, Washington

**Elthon, Thomas E.**—1989; Associate Professor, Biological Sciences; BS, Arizona State, 1977; MS, Iowa State, 1980; PhD, Iowa State, 1983

**Estes, James R.**—1996; Professor, Museum Affiliate of Biological Sciences (Director-Museum); BS, Midwestern, 1959; PhD, Oregon State, 1967

**Freeman, Patricia**—1981; Associate Professor, Museum Affiliate of Biological Sciences (Curator of Zoology-Museum); BA, Randolph-Macon Women's College, 1969; PhD, New Mexico, 1977

**Fritz, Sheri Lynn C.**—1999; Associate Professor, Geosciences and Affiliate of Biological Sciences; BA, Macalester, 1974; MS, Kent State, 1979; PhD, Minnesota, 1985

**Gardner, Scott L.**—1994; Associate Professor, Museum Affiliate of Biological Sciences (Curator Parasitology-Museum); BS, Oregon State, 1980; MA, Northern Colorado, 1983; PhD, New Mexico, 1988

**Genoways, Hugh**—1986; Museum Affiliate of Biological Sciences; AB, Hastings, 1963; PhD, Kansas, 1971

**Gibson, Robert**—1998; Professor, Biological Sciences; BA, Oxford, 1974; D.Phil, Sussex, 1978

**Gilder, William V.**—1991; Lecturer, Biological Sciences; BS, Cornell, 1969; MS, Maine (Orono), 1977; PhD, Nebraska (Lincoln), 1983.

**Harshman, Lawrence G.**—1994; Assistant Professor, Biological Sciences; BS 1975, MS 1977, California (Riverside); PhD, SUNY (Stony Brook), 1982

**Janovy, John Jr.**—1966; Varner Professor, Biological Sciences; Director, Biological Field Station; BS 1959, MS 1962, PhD 1965, Oklahoma

**Joern, Anthony**—1978; Professor, Biological Sciences; BS, Wisconsin, 1970; PhD, Texas (Austin), 1977

**Johnsgard, Paul A.**—1961; Foundation Professor, Biological Sciences; BS, North Dakota, 1953; MS, Washington State (Pullman), 1955; PhD, Cornell, 1959

**Kamil, Alan C.**—1991; Professor, Biological Sciences; BA, Hofstra, 1963; MS, 1966, PhD, 1967, Wisconsin (Madison)

**Kaul, Robert B.**—1964; Professor, Biological Sciences; BS, 1957, MA, 1959, PhD, 1964, Minnesota

**Keeler, Kathleen**—1975; Professor, Biological Sciences; BS, Michigan, 1969; PhD, California (Berkeley), 1975

**Knops, Johannes (Jean)**—1999; Assistant Professor, Biological Sciences; Ing, Higher Agricultural College, 1982; PhD, Arizona State, 1994

**Lee, Kit W.**—1988; Research Associate Professor, Biological Sciences; BS, Chung Chi College, Hong Kong, 1965; MS, 1968, PhD, 1974, Nebraska (Lincoln)

**Louda, Svata**—1983; Professor, Biological Sciences; BA, Pomona, 1965; BS, Washington, 1968; MA, California (Santa Barbara), 1972; PhD, California (Riverside), 1978

**MacKenzie, Sally**—1999; Professor, Horticulture and Affiliate of Biological Sciences; BS, California (Davis), 1981; PhD, Florida, 1986

**Martin, Eugene L.**—1971; Associate Professor, Biological Sciences; BA, Princeton, 1962; MS 1966, PhD 1970, Rutgers; JD, Nebraska (Lincoln), 1985

**Morris, T. Jack**—1990; Director and Professor, Biological Sciences; BS, 1968, MS, 1970, McGill; PhD, Nebraska (Lincoln), 1973

**Nickerson, Kenneth**—1975; Professor, Biological Sciences; BS, Rutgers, 1963; PhD, Cincinnati, 1969

**Nickol, Brent B.**—1966; Professor and Vice Director, Biological Sciences; BA, Wooster, 1962; MS, 1963, PhD, 1966, Louisiana State

## College of Arts and Sciences

### Anthropology

**Anthanassopoulos, Effie**—1994; Assistant Professor, Anthropology and Classics; BA, Athens (Greece), 1980; PhD, Pennsylvania, 1993

**Orti, Guillermo**—1997; Assistant Professor, Biological Sciences; Licenciado en Biología, Buenos Aires, 1987; PhD, SUNY (Stony Brook), 1995

**Osterman, John C.**—1983; Associate Professor, Biological Sciences; BA, Hiram (Ohio), 1974; PhD, Indiana, 1979

**Pardy, R. L.**—1977; Professor, Biological Sciences; BS, Northern Arizona, 1964; MS, 1966, PhD, 1969, Arizona

**Pilson, Diana**—1994; Assistant Professor, Biological Sciences; BS, Tufts, 1980; PhD, Duke, 1990

**Rosowski, James**—1969; Professor, Biological Sciences; BA, Whittier, 1960; MS, Chapman, 1963; PhD, Arizona, 1969

**Schwartzbach, Steven**—1976; Professor, Biological Sciences; BA, SUNY (Buffalo), 1969; PhD, Brandeis, 1975

**Smith, L. Dennis**—1994; Professor, Biological Sciences; President, University of Nebraska; AB 1959, PhD 1963, Indiana

**Veomett, George**—1977; Associate Professor, Biological Sciences; AB, Rochester, 1966; PhD, Colorado, 1972

**Wagner, William**—1997; Assistant Professor, Biological Sciences; AB, California, 1984; PhD, Texas (Austin), 1991

**Wood, Charles**—1996; Lehr 3/M Endowed Professor, Biological Sciences; BA, Kansas, 1975; MA 1976, MPhil 1976, PhD 1981, Columbia

**Woodman, David A.**—1996; Lecturer, Biological Sciences; BS 1977, MS 1979, Bombay; PhD, Nebraska (Lincoln), 1987

**Wylie, Dwane E.**—1981; Professor, Biological Sciences; BA, Missouri, 1967; PhD, Kansas State, 1977

**Zera, Anthony**—1988; Associate Professor, Biological Sciences; BS, SUNY (Buffalo), 1970; MS, Connecticut, 1977; PhD, SUNY (Stony Brook), 1984

## Chemistry

**Belot, John A.**—1999; Assistant Professor, Chemistry; BS, Wake Forest, 1990; PhD, Carnegie Mellon, 1995

**Berkowitz, David B.**—1991; Associate Professor, Chemistry; BS, Chicago, 1982; PhD, Harvard, 1990

**Carr, James**—1966; Professor, Chemistry; BS, Iowa State, 1960; PhD, Purdue, 1966

**Day, Victor W.**—1972; Professor, Chemistry; BS, Kentucky, 1965; PhD, Cornell, 1969

**DiMaggio, Stephen G.**—1993; Associate Professor, Chemistry; BS, Swarthmore, 1985; PhD, California (Berkeley), 1991

**Dussault, Patrick H.**—1988; Professor, Chemistry; BS, California (Irvine), 1982; PhD, California Institute of Technology (Pasadena), 1986

**Eckhardt, Craig J.**—1967; Professor, Chemistry; BA, Colorado, 1962; MS 1965, PhD 1967, Yale

**George, T. A.**—1968; Professor, Chemistry; BS, Manchester Institute, 1963; PhD, Sussex, 1966

**Griep, Mark A.**—1990; Associate Professor and Vice Chair, Chemistry; BS 1981, PhD 1986, Minnesota

**Hage, David S.**—1989; Associate Professor, Chemistry; BS, Wisconsin-La Crosse, 1983; PhD, Iowa State, 1987

**Harbison, Gerard**—1992; Professor, Chemistry; BA, Trinity College (Dublin, Ireland); PhD, Harvard, 1984

**Kingsbury, Charles**—1967; Professor, Chemistry; BS, Iowa State, 1956; PhD, UCLA, 1960

**Langell, Marjorie A.**—1981; Professor, Chemistry; BS, Connecticut, 1974; MA 1976, PhD 1979, Princeton

**McLaughlin, C. William**—1997; Senior Lecturer, Chemistry; BS, NW Missouri State, 1969; PhD, Nebraska (Lincoln), 1984

**Parkhurst, L. J.**—1969; Professor and Chair, Chemistry and Biological Chemistry; BA 1959, MS 1960, PhD 1965, Yale

**Price, Carolyn M.**—1988; Associate Professor, Chemistry and Biochemistry; BS, St. Andrews (Scotland), 1977; PhD, Colorado Health Sciences Center (Denver), 1985

**Rajca, Andrzej T.**—1992; Professor, Chemistry; MS, Technical University of Wroclaw (Poland), 1981; PhD, Kentucky, 1985

**Redepenning, Jody**—1990; Associate Professor, Chemistry; BA, Concordia (Minnesota), 1980; PhD, Colorado State, 1985

**Rieke, Reuben**—1977; Howard S. Wilson Distinguished Professor, Chemistry; BS, Minnesota, 1961; PhD, Wisconsin, 1965

**Shoemaker, Richard K.**—1989; Research Associate Professor, Chemistry; BA, Midland Lutheran, 1983; PhD, Nebraska (Lincoln), 1988

**Smith, David L.**—1994; Professor, Chemistry; BS 1966, PhD 1969, Kansas

**Smith, Jean**—1994; Research Professor, Chemistry; BS, West Virginia, 1965; PhD, Kansas, 1968

**Song, Pill-Soon**—1987; Professor, Chemistry; Professor, Biological Chemistry; BS 1958, MS 1960, Seoul National (Korea); MS 1960, PhD 1964, California-Davis

**Stezowski, John J.**—1991; Professor, Chemistry; BS, Case Institute of Technology (Ohio), 1964; PhD, Michigan State, 1968

**Sturgeon, George**—1964; Associate Professor, Chemistry; BS, North Dakota, 1959; PhD, Michigan State, 1964

**Takacs, James M.**—1988; Professor, Chemistry; BA, Rutgers, 1976; PhD, California Institute of Technology (Pasadena), 1981

**Wang, Chin (Jim) Hsien**—1990; Mabel Donley Clark Professor, Chemistry; BS, National Taiwan University, 1961; MS, Utah State, 1964; PhD, MIT, 1967

**Zeng, Xiao Cheng**—1993; Associate Professor, Chemistry; BS, Peking, 1984; PhD, Ohio State, 1989

## Classics and Religious Studies

**Atkin, Neil**—1986; Associate Professor, Classics; BA 1976, MA 1980, Oxon; PhD, Glasgow, 1982

**Athanassopolous, Effie**—1994; Assistant Professor, Anthropology and Classics; BA, Athens (Greece), 1980; PhD, Pennsylvania, 1993

**Burnett, Stephen**—1993; Lecturer, Classics, History, and Judaic Studies; BA 1978, MA 1982, PhD 1990, Wisconsin (Madison)

**Crawford, Dan D.**—1997; Senior Lecturer, Philosophy and Religious Studies; BA, Haverford, 1963; MA, Princeton, 1966; PhD, Pittsburgh, 1972

**Crawford, Sidnie White**—1997; Associate Professor and Chair, Classics; BA, Trinity, 1981; MTS 1984, PhD 1988, Harvard

**Gorman, Robert**—1995; Lecturer, Classics; BA, Nebraska (Lincoln), 1984; MA 1988, PhD 1995, Pennsylvania

**Leinieks, Valdis**—1966; Professor, Classics; BA 1955, MA 1956, Cornell; PhD, Princeton, 1962

**Rinkevich, Thomas E.**—1967; Associate Professor, Classics; AB, Xavier (Cincinnati), 1964; MA 1966, PhD 1973, Ohio State

**Turner, John D.**—1976; Professor, Classics; Cotner Professor of Religious Studies; AB, Dartmouth, 1960; BD 1965, THM 1966, Union Theological Seminary (Virginia); PhD, Duke, 1970

**Winter, Thomas N.**—1970; Associate Professor, Classics; BA, Michigan State, 1964; MA 1965, PhD 1968, Northwestern

## Communication Studies

**Blake, Cecil A.**—1999; Associate Professor, Communication Studies and Ethnic Studies; BS, Southern Illinois, 1971; MA, Chicago, 1972; PhD, Wisconsin, 1973

**Bormann, Dennis**—1966; Professor, Communication Studies; BA, South Dakota, 1957; MA 1959, PhD 1968, Iowa

**Braithwaite, Dawn O.**—1998; Associate Professor, Communication Studies; BA 1978, MA 1980, California State; PhD, Minnesota, 1988

**Caughlin, John**—1997; Assistant Professor, Communication Studies; BA, Illinois, 1991; MA, Kentucky, 1992; PhD, Texas, 1997

**Di Salvo, Vincent S.**—1971; Professor, Communication Studies; BS, Wisconsin-River Falls, 1964; MA, Kansas State, 1966; PhD, Bowling Green, 1971

**Durst, Karen**—1996; Senior Lecturer, Communication Studies; BFA, South Dakota, 1976; BAA, Minnesota (Duluth); MA South Dakota

**Japp, Phyllis**—1985; Associate Professor, Communication Studies; BA, Nebraska (Omaha), 1976; MA 1979, PhD 1986, Nebraska (Lincoln)

**Kelley, Venita**—1994; Assistant Professor, Communication Studies and Ethnic Studies; BA, California (Berkeley), 1985; MA, Howard, 1987; PhD, Kansas, 1995

**Krone, Kathleen**—1991; Associate Professor, Communication Studies; BS, Illinois State, 1973; MS, Illinois State, 1975; PhD, Texas (Austin), 1985

**Lee, Karen**—1992; Senior Lecturer, Communication Studies; BA, Illinois State, 1970; MA, Baylor, 1971; PhD, Iowa 1980

**Lee, Ronald**—1991; Professor, Communication Studies; BA 1974, MA 1976, Wayne State (Detroit); PhD, Iowa, 1981

**Seiler, William J.**—1972; Professor and Chair, Communication Studies; BEd, Wisconsin-Whitewater, 1965; MA, Kansas State, 1967; PhD, Purdue, 1971

**Stephens, Ronald**—1997; Assistant Professor, Communication Studies and Ethnic Studies; BA, Wayne State, 1986; MA 1992, PhD 1996, Temple

## Computer Science and Engineering

(See College of Engineering and Technology for faculty listing.)

## English

**Bauer, Grace**—1994; Associate Professor, English; BA, Temple, 1974; MFA, Massachusetts, 1987

**Behrendt, Stephen C.**—1980; George Holmes Distinguished Professor, English; BA, Wisconsin, 1969; MA, Eastern Kentucky, 1970; PhD, Wisconsin, 1974

**Bergstrom, Robert F.**—1968; Professor, English; BS, Loyola, 1964; MA, 1965, PhD, 1968, Duke

**Bhatnager, Rashmi**—1994; Assistant Professor, English; BA 1974, MA 1976, MPhil 1981, Delhi; PhD, Pittsburgh, 1995

**Blaha, Franz G.**—1969; Associate Professor, English; AB, Bundeserziehung (Austria), 1960; PhD, Graz, 1968

**Brooke, Robert E.**—1984; Professor, English; BA, Gonzaga, 1979; MA, 1982, PhD, 1984, Minnesota

**Brookes, Gerry H.**—1968; Professor, English; AB, Amherst, 1963; MA, 1965, PhD, 1968, California (Berkeley)

**Buhler, Stephen M.**—1989; Associate Professor, English; BA, California State, 1976; MA, 1983, PhD, 1989, California

**Caramagno, Thomas C.**—1990; Associate Professor, English; BA, 1969, MA, 1975, Loyola Marymount; PhD, UCLA, 1984

**DiBernard, Barbara J.**—1978; Professor, English; BA, Wilson, 1970; MA, 1975, PhD, 1976, SUNY (New York)

**Dixon, Wheeler W.**—1984; Professor, English; Coordinator, Film Studies; BA 1972, MA 1978, MPhil 1978, PhD 1982, Rutgers

**Eggers, Ellen K.**—1990; Associate Professor, English; BA, Northern Illinois, 1976; MA, Penn State, 1984, PhD, Washington, 1990

**Ford, James E.**—1981; Associate Professor, English; BA, Brigham Young, 1968; MA, California State, 1971; PhD, Chicago, 1981

**Foster, Gwendolyn**—1997; Assistant Professor, English; BA, Rutgers, 1983; MA 1992, PhD 1995, Nebraska (Lincoln)

**Gallagher, Chris**—1998; Assistant Professor, English; BA, Merrimack, 1991; MA, New Hampshire, 1993; PhD, SUNY-Albany, 1998

**Goodburn, Amy**—1994; Assistant Professor, English; BA, Miami, 1987; MA 1991, PhD 1994, Ohio State

**Grajeda, Ralph F.**—1970; Associate Professor, English and Ethnic Studies; BA, 1960, MA, 1962, Colorado; PhD, Nebraska (Lincoln), 1974

**Gregory, Donald L.**—1967; Associate Professor, English; Director, Division of General Studies; AB, Bucknell, 1960; MA, 1962, PhD, 1967, Ohio State

**Haller, Robert S.**—1967; Professor, English; AB, Amherst, 1955; PhD, Princeton, 1960

**Harpending, Michael**—1999; Assistant Professor and Coordinator, PIESL Programs; BA, Arkansas, 1972; MA, San Francisco, 1976; PhD, Texas A&M, 1996

**Harris, Sharon M.**—1991; Professor, English; BA 1983, MA 1985, Portland State; PhD, Washington, 1988

**Hilliard, Stephen S.**—1964; Professor, English; AB, Harvard, 1961; MA, Princeton, 1963; PhD, Princeton, 1967

**Honey, Maureen A.**—1979; Professor, English; BA 1967, MA 1970, PhD 1979, Michigan State

**Hostetler, Norman**—1968; Associate Professor, English; AB, Kansas State, 1960; MA 1965, PhD 1973, Pennsylvania

**Kaye, Frances W.**—1977; Professor, English; BA 1970, MA 1972, PhD 1973, Cornell

**Knippling, Alpana**—1993; Associate Professor, English; BA 1980, MA 1982, Delhi; PhD, Pittsburgh, 1990

**Kuzma, Greg S.**—1969; Professor, English; AB, 1966, MA, 1967, Syracuse

**McShane, James A.**—1967; Associate Professor, English; Director, University Foundations Program; AB, Georgetown, 1960; MA 1961, PhD 1968, Emory

**Minter, Deborah**—1996; Assistant Professor, English; BA, Kalamazoo, 1985; MA, Georgetown, 1989; PhD, Michigan, 1996

**Nissé, Ruth**—1995; Assistant Professor, English; BA, Columbia, 1987; PhD, Berkeley, 1995

**Olson, Paul A.**—1957; Foundation Professor, English; BA, Bethany, 1951; MA, Nebraska (Lincoln), 1953; PhD, Princeton, 1957

**Owomoyela, Oyekan**—1972; Professor, English; BA, London, 1963; MFA 1966, PhD 1970, UCLA

**Patton, Venetrai**—1996; Assistant Professor, English and Ethnic Studies; BA, LaVerne, 1990; MA 1992, PhD 1996, California (Riverside)

**Powell, Malea**—1998; Assistant Professor, English; BA, Indiana, 1992; MA 1994, PhD 1998, Miami (Ohio)

**Pratt, Linda R.**—1968; Professor and Chair, English; AB, Florida Southern, 1965; MA 1966, PhD 1971, Emory

**Raz, Hilda**—1994; Professor, English; Editor, *Prairie Schooner*, BA, Boston, 1960

**Ritchie, Joy S.**—1988; Associate Professor, English; BS, Columbia, 1967; MA, Indiana, 1969; PhD, Nebraska (Lincoln), 1983

**Rosowski, Susan J.**—1982; Adele Hall Professor, English; BA, Whittier, 1964; MA, 1967, PhD, 1974, Arizona

**Shapiro, Gerald D.**—1987; Associate Professor, English; BA, 1972, MA, 1973, Kansas; MFA, Massachusetts, 1987

**Slater, Judith C.**—1987; Associate Professor, English; BA, Oregon, 1973; MA, San Francisco State, 1985; MFA, Massachusetts, 1987

**Spencer, Nicholas**—1997; Assistant Professor, English; BA, St. John's (Oxford), 1991; MA 1994, PhD 1996, Emory

**Stock, Robert D.**—1967; Professor, English; AB, Kent, 1963; MA, 1965, PhD, 1967, Princeton

**Wolf, George E.**—1966; Associate Professor, English; AB, Brooklyn, 1961; PhD, Connecticut, 1971

## Geography

**Amedeo, Douglas M.**—1972; Professor, Geography; BS, Wisconsin-Eau Claire, 1962; MA 1965, PhD 1967, Iowa

**Archer, J. Clark**—1985; Associate Professor, Geography; BA 1964, MA 1968, Indiana; PhD, Iowa, 1974

**Lavin, Stephen J.**—1981; Associate Professor, Geography; BS, SUNY (Buffalo), 1968; MS, Montana State, 1970; PhD, Kansas, 1979

**Stoddard, Robert**—1967; Professor and Interim Vice Chair, Geography; Chief Adviser, Asian Studies; BA, Nebraska Wesleyan, 1950; MA, Nebraska (Lincoln), 1960; PhD, Iowa, 1966

**Wishart, David J.**—1974; Professor, Geography; BA, Sheffield, 1967; MA 1968, PhD 1971, Nebraska (Lincoln)

## Geosciences

**Anderson, Mark**—1987; Associate Professor, Geosciences; BS 1977, MS 1980, Northern Illinois; PhD, Colorado, 1985

**Blum, Michael D.**—1995; Associate Professor, Geosciences; BA 1983, MA 1987, PhD 1991, Texas (Austin)

**Dewey, Kenneth F.**—1974; Professor, Geosciences; BA, Elmhurst, 1969; MS, Northern Illinois, 1970; PhD, Toronto, 1973

**Fritz, Sherilynn C.**—1999; Associate Professor, Geosciences; BA, Macalester, 1974; MS, Kent State, 1979; PhD, Minnesota, 1985

**Goble, Ronald J.**—1979; Associate Professor, Geosciences; BS, 1968, MA, 1970, Alberta; PhD, Queen's, 1977

**Grew, Priscilla C.**—1993; Professor, Geosciences and Conservation and Survey Division; BA, Bryn Mawr, 1962; PhD, California (Berkeley), 1967

**Griffin, John**—1984; Adjunct Research Professor, Geosciences; BS, MIT, 1960; PhD, California, 1973

**Harwood, David M.**—1989; Associate Professor, Geosciences; BS, Akron (Ohio), 1980; MS, Florida State, 1982; PhD, Ohio State, 1986

**Holmes, Mary Ann**—1996; Research Assistant Professor, Geosciences; BS 1976, MS 1978, Virginia Polytechnic Institute & State University; PhD, Florida State, 1989

**Hunt, Robert M., Jr.**—1973; Professor, Geosciences; Curator, Vertebrate Paleontology, Museum; BA, Wooster, 1963; MS, New Mexico, 1965; PhD, Columbia, 1971

**Kaplan, Sandford**—1989; Adjunct Research Professor, Geosciences; AB, Lafayette, 1971; MS, Lehigh, 1976; MA, Salve Regina, 1987; PhD, Pittsburgh, 1981

**Kettler, Richard M.**—1989; Associate Professor, Geosciences; BS, Wisconsin, 1978; MS, UCLA, 1982; PhD, Michigan, 1989

**Lawson, Merlin P.**—1968; Professor, Geosciences; Dean of Graduate Studies; Dean of International Affairs; BA, SUNY (Buffalo), 1963; MA 1966, PhD 1973, Clark

**Lindsley-Griffin, Nancy**—1983; Professor, Geosciences; BS, Colorado College, 1964; MS, California (Riverside), 1969; PhD, California (Davis), 1982

**Loope, David B.**—1981; Professor, Geosciences; AB, Duke, 1971; BS, Utah State, 1977; PhD, Wyoming, 1981

**Mason, Joseph A.**—1997; Assistant Professor, Geosciences and Conservation and Survey Division; BS, Wisconsin (Stevens Point), 1989; MS, Minnesota, 1992; PhD, Wisconsin (Madison), 1995

**Pederson, Darryll T.**—1975; Professor, Geosciences; BS, Valley City State, 1961; MST 1966, PhD 1971, North Dakota

**Rowe, Clinton**—1987; Associate Professor, Geosciences; BA 1978, MS 1982, PhD 1988, Delaware

**Smith, Norman D.**—1998; Professor and Chair, Geosciences; BS, St. Lawrence, 1962; MS 1964, PhD 1967, Brown

**Stevens, Lora**—1998; Research Assistant Professor, Geosciences; BA, Pomona, 1989; PhD, Minnesota, 1997

**Swinehart, James B.**—1970; Associate Professor, Geosciences and Conservation and Survey Division; BS, California (Riverside), 1965; MS, Nebraska (Lincoln), 1979

**Treves, S. B.**—1958; Professor, Geosciences; BS, Michigan Technological, 1951; MS, Idaho, 1953; PhD, Ohio State, 1959

**Voorhies, Michael**—1975; Professor, Geosciences (Curator and Coordinator, Vertebrate Paleontology—Museum); BS, Nebraska (Lincoln), 1962; PhD, Wyoming, 1966

**Watkins, David**—1984; Professor, Geosciences; BS 1976, MS 1979, Virginia Polytechnic; PhD, Florida State, 1984

**Wayne, William J.**—1968; Professor, Geosciences; AB 1943, MA 1950, PhD 1952, Indiana

**Zlotnik, Vitaly A.**—1990; Professor, Geosciences; MS, Byelorussian State (USSR), 1971; PhD, National Institute for Hydrogeology & Engineering (USSR), 1979

## History

**Ambrosius, Lloyd E.**—1967; Professor, History; BA 1963, MA 1964, PhD 1967, Illinois

**Berger, Patrice**—1970; Associate Professor, History; Director, University Honors Program; AB, Columbia, 1965; MA 1967, PhD 1972, Chicago

**Braeman, John A.**—1965; Professor, History; AB, Harvard, 1954; PhD, Johns Hopkins, 1960

**Burnett, Amy N.**—1989; Associate Professor, History; BA 1979, MA 1984, PhD 1989, Wisconsin

**Burnett, Stephen G.**—1996; Lecturer, History, Classics, and Judaic Studies; BA 1978, MA 1983, MLS 1989, PhD 1990, Wisconsin (Madison)

**Cahan, David L.**—1982; Professor, History; AB, California (Berkeley), 1969; MA 1977, PhD 1980, Johns Hopkins

**Coble, Parks M.**—1976; Professor, History; BA, South Carolina, 1968; MA 1971, PhD 1975, Illinois

**Cooper, Jessica A.**—1990; Associate Professor, History; BA, Stanford, 1980; MA 1983, PhD 1988, California (Berkeley)

**Dorsey, Learthen**—1990; Associate Professor, History and Ethnic Studies; BS, Pennsylvania State, 1964; MA 1972, PhD 1982, Michigan State

**Gorman, Vanessa B.**—1994; Assistant Professor, History; BA, Brigham Young, 1985; MA 1988, PhD 1993, Pennsylvania

**Greenwald, Emily**—1995; Assistant Professor, History and Ethnic Studies; BA 1987, MA 1990, PhD 1994, Yale

**Homze, Edward L.**—1965; Professor, History; BA 1952, MA 1953, Bowling Green; PhD, Pennsylvania State, 1963

**Kennedy, Dane**—1981; Professor and Chair, History; BA 1973, MA 1975, PhD 1981, California (Berkeley)

**Kleimola, Ann**—1972; Professor, History; BA, Olivet, 1965; MA 1966, PhD 1970, Michigan

**Levin, Carol**—1998; Professor, History; BA, Southern Illinois, 1970; MA 1972, PhD 1976, Tufts

**Mahoney, Timothy R.**—1986; Associate Professor, History; BA, College of the Holy Cross, 1975; MA 1976, PhD 1982, Chicago

**Maslowski, Peter**—1973; Professor, History; BA, Miami (Ohio), 1966; MA 1968, PhD 1972, Ohio State

**Miller, Susan A.**—1995; Assistant Professor, History and Ethnic Studies; BA 1975, MA 1988, Oklahoma

**Moulton, Gary E.**—1979; Professor, History; Editor, *Journals of Lewis & Clark Expedition*; BA, NE Oklahoma State, 1968; MA 1970, PhD 1973, Oklahoma State

**Rader, Benjamin G.**—1967; James L. Sellers Professor, History; BA, SW Missouri State, 1958; MA, Oklahoma State, 1959; PhD, Maryland, 1964

**Steinweis, Alan E.**—1993; Hymen Rosenberg Associate Professor of History and Judaic Studies; BA, SUNY (Binghamton), 1982; MA 1982, PhD 1988, North Carolina (Chapel Hill)

**Winkle, Kenneth J.**—1987; Associate Professor, History; AB, Miami (Ohio), 1976; MA 1977, PhD 1984, Wisconsin

**Wunder, John R.**—1989; Professor, History; BA 1967, MA 1970, JD 1970, Iowa; PhD, Washington, 1974

## Mathematics and Statistics

**Buskirk, Trent**—1999; Assistant Professor, Mathematics and Statistics; BS, Presbyterian, 1992; MS, South Alabama, 1994; PhD, Arizona State, 1999

**Cohn, Steve**—1989; Associate Professor, Mathematics and Statistics; MS 1985, PhD 1990, New York

**Chouinard, Leo**—1976; Associate Professor, Mathematics and Statistics; BS, MIT, 1970; PhD, Princeton, 1975

**Deng, Bo**—1987; Associate Professor, Mathematics and Statistics; BS, Fudan University (Shanghai, China), 1982; PhD, Michigan State, 1987

**Donsig, Allan**—1997; Assistant Professor, Mathematics and Statistics; BS 1988, MS 1989, Waterloo; PhD, Texas A&M, 1993

**Dunbar, Steven R.**—1985; Professor, Mathematics and Statistics; BS, Nebraska (Lincoln), 1974; PhD, Minnesota, 1981

**Erbe, Lynn**—1997; Visiting Professor, Mathematics and Statistics; BA, Concordia (MN), 1963; MA 1960, PhD 1968, Nebraska (Lincoln)

**Harbourne, Brian**—1985; Professor, Mathematics and Statistics; BA, Virginia, 1977; PhD, Massachusetts Institute of Technology, 1982

**Hermiller, Susan**—1998; Assistant Professor, Mathematics and Statistics; BS, Ohio State, 1984; MS 1987, PhD 1992, Cornell

**Hines, Gwendolen**—1993; Assistant Professor, Mathematics and Statistics; BS, Illinois, 1986; MS, Brown, 1988; PhD, Georgia Institute of Technology, 1993

**Jaffe, David**—1989; Associate Professor, Mathematics and Statistics; BS 1981, PhD 1987, Berkeley

**Johnson, Gerald W.**—1968; Professor, Mathematics and Statistics; BA, St. Thomas, 1961; MA 1963, PhD 1968, Minnesota

**Kramer, Earl**—1970; Professor, Mathematics and Statistics; BS, Wisconsin, 1962; MS 1966, PhD 1969, Michigan

**Lahiri, Parthasarathi**—1986; Professor, Mathematics and Statistics; BS, Presidency College (Calcutta), 1979; MS, Calcutta University, 1982; PhD, Florida, 1986

**Ledder, Glenn**—1989; Associate Professor, Mathematics and Statistics; BS, Iowa State, 1977; MS 1986, PhD 1990, New York

**Lewis, William J.**—1971; Professor and Chair, Mathematics and Statistics; BS 1966, PhD 1971, Louisiana State

**Logan, David**—1981; Professor, Mathematics and Statistics; BS 1966, MS 1968, PhD 1970, Ohio State

**Maiti, Tapabrata**—1998; Assistant Professor, Mathematics and Statistics; BS 1988, MS 1990, PhD 1996, Kalyan (India)

**Marley, Tom**—1989; Associate Professor, Mathematics and Statistics; BS, Creighton, 1984; MS 1986, PhD 1989, Purdue

**Meakin, John C.**—1970; Milton Mohr Professor, Mathematics and Statistics; BS 1967, MS 1968, Queensland (Australia); PhD, Monash (Australia), 1969

**Mientka, W. E.**—1957; Professor, Mathematics and Statistics; Executive Director, MAA Exam; BS, Massachusetts, 1948; MA, Columbus, 1949; PhD, Colorado, 1955

**Nettleton, Dan**—1996; Assistant Professor, Mathematics and Statistics; BA, Wartburg (Iowa), 1991; MS 1993, PhD 1996, Iowa

**Orr, John**—1991; Associate Professor, Mathematics and Statistics; BSc, London, 1985; PhD, King's College, 1989

**Peterson, Allan C.**—1969; Professor, Mathematics and Statistics; BS 1963, MS 1965, South Dakota School of Mines; PhD, Tennessee, 1968

**Pitts, David**—1986; Professor, Mathematics and Statistics; AB 1979, MA 1982, PhD 1986, California (Berkeley)

**Radcliffe, Andrew**—1993; Associate Professor, Mathematics and Statistics; BA 1984, PhD 1989, Cambridge

**Rammaha, Mohammad**—1985; Associate Professor, Mathematics and Statistics; MS, Dundee (Scotland), 1976; PhD, 1985, Indiana

**Rebarber, Richard**—1984; Professor, Mathematics and Statistics; BA, Oberlin, 1978; PhD, Wisconsin (Madison), 1984

**Shores, Thomas S.**—1968; Professor, Mathematics and Statistics; BA 1964, MA 1965, PhD 1968, Kansas

**Skouge, David**—1966; Professor, Mathematics and Statistics; BS, Wisconsin, 1960; PhD, Minnesota, 1966

**Walker, Judy**—1996; Assistant Professor, Mathematics and Statistics; BS, Michigan, 1990; MS 1992, PhD 1996, Illinois

**Walker, Mark**—1996; Assistant Professor, Mathematics and Statistics; BS, New Mexico, 1990; MS 1992, PhD 1996, Illinois

**Wiegand, Roger**—1972; Professor, Mathematics and Statistics; AB, Princeton, 1964; MA 1965, PhD 1967, Washington

**Wiegand, Sylvia**—1972; Professor, Mathematics and Statistics; AB, Bryn Mawr, 1966; PhD, Wisconsin, 1972

**Woodward, Gordon**—1971; Associate Professor, Mathematics and Statistics; BS 1965, PhD 1971, Maryland

**Young, Linda J.**—1990; Professor, Mathematics and Statistics; BS 1974, MS 1976, West Texas State; PhD, Oklahoma State, 1981

## Modern Languages and Literatures

**Asato, Noriko**—1998; Assistant Professor, Modern Languages and Literatures; BA, Naha (Japan), 1980; MA, Wisconsin (Madison), 1993; PhD, Purdue, 1998

**Balasubramanian, Radha**—1990; Associate Professor, Modern Languages and Literatures; BA 1971, MA 1979, India; PhD, Indiana (Bloomington), 1987

**Brantner, Christine E.**—1987; Associate Professor, Modern Languages and Literatures; MA, 1983, PhD 1987, Washington (St. Louis)

**Buhmann, Joan**—1977; Associate Professor and Vice Chair, Modern Languages and Literatures; AB, William & Mary, 1962; MA, Middlebury, 1969; PhD, North Carolina (Chapel Hill), 1978

**Carr, Thomas M.**—1972; Professor, Modern Languages and Literatures; BA, Catholic, 1966; MA, 1968, PhD, 1972, Wisconsin

**Centuori, Walter**—1967; Associate Professor, Modern Languages and Literatures; BS, St. Joseph's (Philadelphia), 1962; PhD, Naples (Italy), 1967

**Espina, Eduardo**—1998; Associate Professor, Modern Languages and Literatures; Licenciatura en Letras, Uruguay, 1982; MA, Wichita, 1983; PhD, Washington (St. Louis), 1987

**Fouletier-Smith, Nicole**—1968; Professor, Modern Languages and Literatures; MA, Lyon-Grenoble, 1966; PhD, Nebraska (Lincoln), 1974

**Ganim, Russell**—1993; Assistant Professor, Modern Languages and Literatures; AB, Grinnell, 1983; MA 1987, PhD 1992, Virginia

**Gonzalez, Jose**—1998; Assistant Professor, Modern Languages and Literatures; BA, Mayaguez (Puerto Rico), 1987; MA 1989, PhD 1994, SUNY (Binghamton)

**Hayden-Roy, Priscilla**—1988; Associate Professor, Modern Languages and Literatures; BA, Bryn Mawr, 1977; MA 1983, PhD 1988, Washington (St. Louis)

**Horowitz, Brian**—1994; Assistant Professor, Modern Languages and Literatures; BA, New York, 1983; MA 1986, PhD 1993, California

**Jacobson, Manfred**—1973; Professor, Modern Languages and Literatures; BA 1960, MA 1966, PhD 1972, Chicago

**Karch, Dieter**—1966; Professor, Modern Languages and Literatures; BA 1963, MA 1964, PhD 1967, Washington

**Martinez, Adelaida L.**—1988; Professor, Modern Languages and Literatures; BA 1962, PhD 1975, Texas

**Martinez, Antonio H.**—1988; Associate Professor, Modern Languages and Literatures; MA, Italy, 1953; MA 1957, PhD 1971, Zaragoza (Spain)

**Mejias-Vicandi, Errapel**—1992; Assistant Professor, Modern Languages & Literatures; BA, De Duesto, 1985; CPHL 1990; PhD, California, 1993

**Nickel, Catherine**—1986; Associate Professor, Modern Languages and Literatures; BA, California, 1968; MA, 1974, PhD, 1984, Nebraska (Lincoln)

**Olds, Marshall**—1984; Professor, Modern Languages and Literatures; BA, Colgate, 1972; PhD, Case Western Reserve, 1980

**Pasten, J. Agustín**—1993; Assistant Professor, Modern Languages and Literatures; BA, Chile, 1979; BA, Berea, 1982; MA of Divinity, Duke, 1985; MA, Kentucky, 1988; PhD, Pennsylvania, 1993

**Pereira, Oscar**—1993; Assistant Professor, Modern Languages and Literatures; BA 1976, MA 1984, Madrid; MA 1988, PhD 1992, Minnesota

**Pierson, Colin M.**—1976; Associate Professor, Modern Languages and Literatures; BS, Columbia, 1962; MA, California (Berkeley), 1964; PhD, City (New York), 1974

**Saskova-Pierce, Miluse**—1989; Associate Professor, Modern Languages and Literatures; BA, Brussels, 1972; MA 1980, PhD 1986, Kansas

**Shirer, Robert**—1983; Associate Professor, Modern Languages and Literatures; BA, Beloit, 1973; MA 1976, PhD 1983, Chicago

**Stebbins, Charles E.**—1969; Professor, Modern Languages and Literatures; BA, Boston, 1958; MA 1964, PhD 1970, Iowa

**Stump, Jordan**—1992; Associate Professor, Modern Languages and Literatures; BA 1985, MA 1987, Kansas; PhD, Illinois, 1992

**Turner, Harriet S.**—1991; Professor and Chair, Modern Languages and Literatures; BA, Smith College, 1960; MA, Texas-Austin, 1963; PhD, Wisconsin-Madison, 1970

**Wilhelmsen, Elizabeth C.**—1988; Associate Professor, Modern Languages and Literatures; BA, Texas, 1971; MA 1974, PhD 1980, St. Louis

## Philosophy

**Audi, Robert N.**—1973; Professor, Philosophy; BA, Colgate, 1963; MA 1965, PhD 1967, Michigan

**Becker, Edward**—1968; Associate Professor, Philosophy; BA, Stanford, 1962; PhD, Johns Hopkins, 1970

**Casullo, Albert**—1979; Professor, Philosophy; BA, Syracuse, 1971; MA 1974, PhD 1975, Iowa

**Hugly, Philip**—1974; Professor, Philosophy; BA 1958, PhD 1965, California (Berkeley)

**Ide, Harry**—1987; Associate Professor, Philosophy; BA, Temple, 1983; MA 1986; PhD 1986, Cornell

**Mendola, Joseph**—1986; Professor and Chair, Philosophy; BA, Haverford, 1979; MA 1981, PhD 1983, Michigan

**Newman, Lex**—1994; Assistant Professor, Philosophy; BA, California State, 1980; MA 1990, PhD 1994, California (Irvine)

**Potter, Nelson**—1965; Professor, Philosophy; BA, Monmouth, 1961; PhD, Johns Hopkins, 1969

**Sayward, Charles**—1963; Professor, Philosophy; BA, Bates, 1959; PhD, Cornell, 1964

**van Roojen, Mark**—1991; Associate Professor, Philosophy; BA, Reed, 1981; MA 1984, PhD 1993, Princeton

**Von Eckardt, Barbara**—1989; Professor, Philosophy and Psychology; BA, Chicago, 1965; PhD, Case Western Reserve, 1974

## Physics and Astronomy

**Batelaan, Hermann**—1998; Assistant Professor, Physics and Astronomy; Drs, Leiden, 1987, PhD, Utrecht, 1991

**Bettis, Clifford L.**—1977; Research Associate Professor, Physics and Astronomy; BSc 1970, PhD 1976, Oklahoma

**Burns, Donal J.**—1968; Professor, Physics and Astronomy; BSc 1962, PhD 1965, Queen's, Belfast (N. Ireland)

**Burrow, Paul D.**—1976; Professor, Physics and Astronomy; SB, MIT, 1960; PhD, California (Berkeley), 1966

**Campbell, William B.**—1965; Professor and Vice Chair, Physics and Astronomy; BA, Rice, 1959; PhD, Colorado, 1965

**Claes, Daniel R.**—1996; Assistant Professor, Physics and Astronomy; BA, Northern Iowa, 1976; PhD, Northwestern, 1991

**Doudin, Bernard**—1997; Assistant Professor, Physics and Astronomy; BA 1984, PhD 1989, Lausanne

**Dowben, Peter A.**—1993; Professor, Physics and Astronomy; BA, Haverford, 1977; PhD, Cambridge (UK), 1981

**Ducharme, Stephen**—1991; Associate Professor, Physics and Astronomy; BS, Lowell, 1981; MA 1982, PhD 1986, USC

**Fabrikant, Ilya I.**—1989; Professor, Physics and Astronomy; MS, 1971, Latvian State (Riga, Latvia, USSR); PhD, Institute of Physics, Latvian Academy of Sciences, 1974

**Finkler, Paul**—1965; Associate Professor, Physics and Astronomy; AB, Brooklyn, 1958; PhD, Purdue, 1963

**Fuller, Robert G.**—1969; Professor, Physics and Astronomy; Director, ADAPT; BS, Missouri (Rolla), 1957; MS 1958, PhD 1965, Illinois

**Gaskell, C. Martin**—1992; Senior Lecturer, Physics and Astronomy; BS, Edinburgh, 1975; MS 1979, PhD 1981, California (Santa Cruz)

**Gay, Timothy J.**—1993; Professor, Physics and Astronomy; BS, California Institute for Technology, 1975; SM 1976; PhD, Chicago, 1980

**Hardy, John R.**—1967; George Holmes Distinguished Professor, Physics and Astronomy; BS 1956, PhD 1959, Bristol (UK)

**Hardy, Robert J.**—1967; Professor, Physics and Astronomy; BA, Reed, 1956; MS 1958, PhD 1962, Lehigh

**Jaeks, Duane H.**—1966; Professor, Physics and Astronomy; BA, Wisconsin, 1958; MA, Miami, 1960; PhD, Washington, 1964

**Jaswal, Sitaram S.**—1966; Professor, Physics and Astronomy; BS 1958, MS 1959, Punjab (India); PhD, Michigan State, 1964

**Jones, C. Edward**—1973; Professor, Physics and Astronomy; BS, MIT, 1958; PhD, California (Berkeley), 1964

**Kirby, Roger D.**—1971; Professor and Chair, Physics and Astronomy; BS, Michigan State, 1964; PhD, Cornell, 1969

**Leslie-Pelecky, Diandra L.**—1996; Assistant Professor, Physics and Astronomy; BS, North Texas, 1986; PhD, Michigan State, 1991

**Leung, Kam-Ching**—1970; Professor, Physics and Astronomy; BS, Queens (Canada), 1961; MA, W. Ontario, 1963; PhD, Pennsylvania, 1967

**Liou, Sy-Hwang**—1988; Professor, Physics and Astronomy; BS, Soochow (Taiwan), 1974; MS, Florida Institute of Technology, 1979; MA 1981, PhD 1985, Johns Hopkins

**Morgan, Thomas A.**—1964; Associate Professor, Physics and Astronomy; BS, MIT, 1958; PhD, Syracuse, 1964

**Schmidt, Edward G.**—1974; Professor, Physics and Astronomy; Associate Dean, College of Arts and Sciences; BS, Chicago, 1965; PhD, Australian National, 1970

**Sellmyer, David J.**—1972; George Holmes Distinguished Professor, Physics and Astronomy; Director, Center for Materials Research and Analysis; BS, Illinois, 1960; PhD, Michigan State, 1965

**Simon, Norman R.**—1970; Professor, Physics and Astronomy; BA, Syracuse, 1959; MA, City (New York), 1964; PhD, Yeshiva, 1968

**Snow, Gregory R.**—1993; Associate Professor, Physics and Astronomy; AB, Princeton, 1976; PhD, Rockefeller, 1983

**Starace, Anthony F.**—1973; Professor, Physics and Astronomy; AB, Columbia, 1966; MS 1967, PhD 1971, Chicago

**Torr, Marsha R.**—1999; Professor, Physics and Astronomy and Vice Chancellor for Research; BS 1963, MS 1964, PhD 1966, Rhodes (South Africa)

## Political Science

**Avery, William P.**—1974; Professor, Political Science; BS 1968, MA 1971, Tennessee; PhD, Tulane, 1975

**Combs, Michael W.**—1988; Associate Professor, Political Science; BA, Southern (Baton Rouge), 1973; PhD, Washington (St. Louis), 1978

**Comer, John C.**—1971; Professor and Chair, Political Science; AB, Miami (Ohio), 1965; MA, Kent State, 1967; PhD, Ohio State, 1971

**Forsythe, David**—1973; Professor, Political Science; BA, Wake Forest, 1964; MA 1966, PhD 1968, Princeton

**Gruhl, John R.**—1976; Professor, Political Science; BA, De Pauw, 1969; MA 1973, PhD 1976, California (Santa Barbara)

**Heller, William B.**—1997; Assistant Professor, Political Science; AB, Harvard, 1983; PhD, California (San Diego), 1995

**Hibbing, John**—1981; Professor, Political Science; BS, Dana, 1976; MA 1978, PhD 1980, Iowa

**Humes, Brian**—1991; Associate Professor, Political Science; BS, Iowa, 1982; PhD, Washington (St. Louis), 1988

**Kathlene, Lyn**—1998; Associate Professor, Political Science; BA 1985, MA 1988, PhD 1991, Colorado

**McMahon, Patrice C.**—1999; Assistant Professor, Political Science; BA, The American University, 1988; MA, George Washington, 1993; PhD, Columbia, 1998

**Rapkin, David P.**—1977; Associate Professor, Political Science; BA, Georgia State, 1972; PhD, Florida State, 1979

**Sittig, Robert E.**—1962; Professor, Political Science; BA 1958, MA 1959, Western Michigan; PhD, Southern Illinois, 1962

**Smith, Kevin B.**—1994; Assistant Professor, Political Science; BA, Texas Tech, 1986; MA 1991, PhD 1994, Wisconsin-Milwaukee

**Spinner-Halev, Jeff**—1992; Associate Professor, Political Science; BA 1985, PhD 1992, Michigan

**Steinman, Michael**—1970; Professor, Political Science; Associate Dean, College of Arts and Sciences; BA, George Washington, 1964; MA 1967, PhD 1971, Chicago

**Theiss-Morse, Elizabeth**—1988; Associate Professor, Political Science; BA 1982, PhD 1989, Minnesota

**Wedeman, Andrew H.**—1994; Assistant Professor, Political Science; BA 1982, MA 1984, George Washington; MA 1989, PhD 1994, UCLA

## Psychology

**Berman, John J.**—1972; Professor, Psychology; BA, Xavier, 1968; MS 1970, PhD 1972, Northwestern

**Bernstein, Daniel J.**—1974; Professor, Psychology; AB, Stanford, 1968; PhD, California (San Diego), 1973

**Bevins, Rick**—1996; Assistant Professor, Psychology; BS, Jacksonville State, 1989; PhD, Massachusetts, 1993

**Carlo, Gustavo**—1994; Assistant Professor, Psychology; BA, Florida International, 1986; MA 1991, PhD 1994, Arizona State

**Crockett, Lisa J.**—1996; Associate Professor, Psychology; BA, Pennsylvania, 1978; PhD, Chicago, 1986

**Dienstbier, Richard**—1969; Professor, Psychology; BA 1965, MA 1967, Rhode Island; PhD, Rochester, 1969

**Flowers, John H.**—1972; Professor, Psychology; BA, Wesleyan (Connecticut), 1968; PhD, Yale, 1972

**Garbin, Calvin P.**—1985; Associate Professor, Psychology; BS, Slippery Rock State College, 1979; PhD, Texas (Arlington), 1985

**Hansen, David**—1992; Associate Professor, Psychology; BA, Creighton, 1980; MA 1983, PhD 1985, Mississippi

**Hope, Debra Anne**—1990; Associate Professor, Psychology; BA, Lewis and Clark, 1983; MA 1988, PhD 1990, SUNY (Albany)

**Howe, Herbert E., Jr.**—1969; Professor, Psychology; Associate to the Chancellor; BA, Allegheny, 1964; MS 1967, PhD 1969, Pennsylvania State

**Inderbitzin, Heidi**—1990; Associate Professor, Psychology; BA 1984, MA 1986, Wake Forest; PhD, West Virginia, 1990

**Jensen, Donald D.**—1969; Professor, Psychology; MS, Nebraska (Lincoln), 1954; MA 1957, PhD 1958, Yale

**Leger, Daniel W.**—1980; Professor, Psychology; AB, Humboldt State, 1973; MA, California (Riverside), 1975; PhD, California (Davis), 1980

**Page, Monte**—1966; Professor, Psychology; BA, Bethany Nazarene, 1957; MS 1964, PhD 1966, Oklahoma

**Penrod, Steven**—1995; Professor, Psychology; Director, Law/Psychology Program; BA, Yale, 1969; JD, Harvard, 1974; PhD, Harvard, 1979

**Pope-Edwards, Carolyn**—1997; Professor, Psychology; BA 1969, EDD 1974, Harvard

**Raffaelli, Marcela**—1995; Assistant Professor, Psychology and Ethnic Studies; BA, Williams, 1982; MA 1987, PhD 1990, Chicago

**Rivers, P. Clayton**—1972; Professor, Psychology; BA, Berea, 1961; MA 1964, PhD 1967, Southern Illinois

**Scalora, Mario**—1997; Assistant Professor, Psychology; BS 1983, MA 1986, PhD 1989, Nebraska (Lincoln)

**Spaulding, William**—1979; Professor, Psychology; BA, Pomona, 1972; MA 1975, PhD 1976, Arizona

**Thompson, Ross A.**—1981; Professor, Psychology; AB, Occidental, 1976; AM 1979, PhD 1981, Michigan

**Tomkins, Alan J.**—1986; Associate Professor, Psychology; BA, Boston, 1975; MA 1980, JD 1984, PhD 1984, Washington

**Wilcox, Brian**—1994; Professor, Psychology; Director, Center for Children, Families and the Law; BA, California Lutheran, 1973; PhD, Texas (Austin), 1979

**Willis Esqueda, Cynthia E.**—1991; Assistant Professor, Psychology and Ethnic Studies; BA, Washburn, 1984; MA 1987, PhD 1990, Kansas

## Sociology

**Benford, Robert D., Jr.**—1987; Associate Professor, Sociology; BA 1981, MA 1984, PhD 1987, Texas (Austin)

**Brinkerhoff, David**—1976; Professor, Sociology; Associate Vice Chancellor for Academic Affairs; BA 1967, MA 1968, Brigham Young; PhD, Washington, 1976

**Calhoun, Thomas C.**—1996; Associate Professor, Sociology and Director, Institute for Ethnic Studies; BA, Texas Wesley, 1970; MA, Texas Tech, 1971; PhD, Kentucky, 1988

**Carranza, Miguel**—1975; Associate Professor, Sociology and Ethnic Studies; BA, Kearney State, 1971; MA 1974, PhD 1977, Notre Dame

**Chapple, Constance L.**—1998; Assistant Professor, Sociology; BA, Ohio Wesleyan, 1990; MA 1992, PhD 1999, Arizona

**Deegan, Mary Jo**—1975; Professor, Sociology; BS 1969, MA 1973, Western Michigan; PhD, Chicago, 1975

**Johnson, David R.**—1969; Professor, Sociology; Director, Bureau of Sociological Research; BA, Kansas State (Pittsburg), 1966; MA 1969, PhD 1971, Vanderbilt

**Lehmann, Jennifer M.**—1989; Associate Professor, Sociology; BA, Grand Valley State, 1980; MA 1984, PhD 1989, SUNY (Buffalo)

**McCutcheon, Allan L.**—1996; Professor, Sociology and Director, Gallup Research Center; BS, Iowa State, 1972; MA 1977, PhD 1982, Chicago

**McQuillian, Julia T.**—1998; Assistant Professor, Sociology; BA 1989, MA 1991, PhD 1998, Connecticut

**Moore, Helen A.**—1979; Professor, Sociology; BS 1974, MA 1976, PhD 1979, California (Riverside)

**Ortega, Suzanne T.**—1980; Professor, Sociology; Associate Dean of Graduate Studies; BS, Austin Peay St., 1974; MS 1976, PhD 1979, Vanderbilt

**Parker, Keith D.**—1989; Associate Professor, Sociology and Ethnic Studies and Assistant Dean, Graduate Studies; BA, Delta State, 1978; MA 1981, PhD 1986, Mississippi State

**Rogers, Stacy J.**—1996; Assistant Professor, Sociology; BA, SUNY (Geneseo), 1986; MA 1989, PhD 1993, Ohio State

**Siegmund, Jack**—1966; Professor, Sociology; BA, Brooklyn, 1954; PhD, Illinois, 1966

**Wahl, Ana-Maria**—1993; Assistant Professor, Sociology; BA, Creighton, 1984; MA 1989, PhD 1995, Indiana

**White, Lynn K.**—1974; Professor, Sociology; BA 1967, MA 1970, PhD 1975, Washington

**Whitt, Hugh P.**—1967; Professor, Sociology; BA, Princeton, 1962; MA 1966, PhD 1968, North Carolina (Chapel Hill)

**Williams Jr., J. Allen**—1970; Professor and Chair, Sociology; BA, North Carolina, 1958; MA, Cornell, 1961; PhD, North Carolina (Chapel Hill), 1963

## College of Business Administration

**Milligan, Cynthia Hardin**—1998; Dean, College of Business Administration; BA, Kansas, 1967; JD, George Washington, 1970

### Accountancy

**Allen, Arthur C.**—1989; Associate Professor, School of Accountancy; BSBA, Mississippi, 1985; PhD, Alabama, 1989.

**Balke, Thomas E.**—1970; Raymond C. Dein Professor and Director, School of Accountancy; BS, Tulsa, 1965; MS, Denver, 1966; PhD, Missouri, 1970

**Brown, James E.**—1980; KPMG Peat Marwick Professor, School of Accountancy; BS 1968, MBA 1970, DBA 1980, Tennessee

**Burton, F. Greg**—1994; Assistant Professor, School of Accountancy; BA 1984, MA 1987, Utah State; PhD, South Carolina, 1994

**Chen, Kung H.**—1973; Steinhart Professor, School of Accountancy; BA, Taiwan, 1964; MBA, West Virginia, 1969; PhD, Texas, 1974

**Goebel, John W.**—1959; Professor, School of Accountancy; JD, Creighton, 1954; MA, Nebraska (Lincoln), 1968

**Lawrence, Janice E.**—1992; Associate Professor, School of Accountancy; BA, Knox, 1969; MS, Wisconsin (Whitewater), 1977; PhD, Texas A&M, 1992

**Ruchala, Linda V.**—1991; Associate Professor, School of Accountancy, BS, Michigan State, 1976; MGRP, Harvard, 1978; PhD, Indiana, 1991

**Shoemaker, Paul A.**—1989; Nebraska Society of CPAs Associate Professor, School of Accountancy; BS, Bloomsburg, 1974; MBA, Marywood, 1983; PhD, Pennsylvania State, 1989

**Stara, Nancy**—1985; Associate Vice Chancellor of Academic Affairs and Director of Summer Sessions; Professor, School of Accountancy; BA, Park College, 1964; JD, Nebraska (Lincoln), 1967; LLM, Denver, 1985

### Business Administration

**Pursell, Donald**—1976; Professor, Business Administration; BA 1962, MA 1963, Southern Illinois; PhD, Duke, 1967

### Economics

**Allgood, Sam**—1996; Assistant Professor, Economics; BA 1989, PhD 1993, Georgia

**Anderson, John E.**—1991; Professor, Economics; BA, W. Michigan, 1973; MA 1976, PhD 1977, Claremont Graduate School

**Cushing, Matthew J.**—1992; Associate Professor, Economics; BA 1976, PhD 1985, Virginia

**Fuess, Scott M.**—1986; Associate Professor, Economics; BA, Delaware, 1982; MS 1983, PhD 1986, Purdue

**Hayden, F. Gregory**—1967; Professor, Economics; BA, Kansas State, 1962; PhD, Texas, 1968

**Kim, Benjamin J. C.**—1983; Associate Professor, Economics; BA, Seoul National, 1972; MA, Saskatchewan, 1977; PhD, UCLA, 1983

**Klaus, Bettina**—1998; Assistant Professor, Economics; MS, University of Technology Aachen, 1994; PhD, Maastricht, 1998

**Lamphier, F. Charles**—1966; Nelson Professor, Economics; Director, Bureau of Business Research; BS 1962, MS 1964, PhD 1967, Kansas State

**MacPhee, Craig R.**—1969; Paul C. Burmeister Professor, Economics; BS, Idaho, 1966; MA 1968, PhD 1970, Michigan State

**May, Ann Mari**—1987; Associate Professor, Economics; BS 1980, MS 1983, PhD 1988, Colorado State

**McGarvey, Mary G.**—1992; Associate Professor, Economics; BS, Towson State, 1976; PhD, Virginia, 1983

**Petr, Jerry L.**—1966; C. Wheaton Battey Professor, Economics; BA, Cornell, 1961; MA 1965, PhD 1967, Indiana

**Riefler, Roger E.**—1973; Professor, Economics; BA, Bowdoin, 1962; MA 1965, PhD 1966, Washington

**Rosenbaum, David L.**—1985; Professor, Economics; BA, Maryland, 1979; MA 1983, PhD 1985, Wisconsin

**Schmidt, James R.**—1977; Professor and Chair, Economics; BS, Nebraska (Lincoln), 1973; MA 1977, PhD 1978, Rice

**van den Berg, Hendrik**—1989; Associate Professor, Economics; BA 1971, MA 1972, SUNY (Albany); MS 1987, PhD 1989, Wisconsin-Madison

**Walstad, William B.**—1982; State Farm Professorship, Economics; BA, Wisconsin, 1972; MA 1975, MS 1981, PhD 1978, Minnesota

### Finance

**DeFusco, Richard A.**—1985; Associate Professor, Finance; BS 1977, MBA 1979, Rhode Island; PhD, Tennessee, 1985

**Dudney, Donna M.**—1999; Assistant Professor, Finance; BA 1982, MA 1991, PhD 1997, Nebraska (Lincoln)

**Farrell, Kathleen A.**—1993; Assistant Professor, Finance; BBA, Kent State, 1986; PhD, Georgia, 1994

**Geppert, John M.**—1989; Associate Professor, Finance; BS, Nebraska (Omaha), 1984; MS 1987, PhD 1989, Purdue

**Karels, Gordon V.**—1986; Nebraska Bankers Association Professor of Banking, Finance; Associate Dean, College of Business Administration; BA, Southwest State (Minnesota), 1973; MS, South Dakota State, 1975; MS 1977, PhD 1979, Purdue

**Mashayekhi, Mostafa**—1990; Assistant Professor, Finance; Actuarial Science instructor; BSc 1975, MSc 1976, London; PhD, Michigan State, 1990

**McCabe, George M.**—1981; Professor, Finance; AB 1965, MBA 1967, Michigan; PhD, Pennsylvania, 1975

**Peterson, Manferd O.**—1976; W.W. Marshall Professor of Finance and Chairman, Finance; BA, Wisconsin-River Falls, 1966; MA 1968, PhD 1971, Michigan State

**Ramsay, Colin M.**—1986; Finance; E. J. Faulkner Professor and Director, Actuarial Science; BS, City University (England), 1979; MMath 1980, PhD 1984, Waterloo (Canada)

**Rejda, George E.**—1963; V. J. Skutt Professor, Finance; BS 1957, MA 1958, Creighton; PhD, Pennsylvania, 1961

**Zorn, Thomas S.**—1981; Rachel Parham Carveth Professor, Finance; Director of the Center for Insurance and Risk Management Studies; Director of the Finance Graduate Program; AB 1964, MA 1970, PhD 1978, UCLA

### Management

**Digman, Lester A.**—1977; US Bank Professor, Management; Director, Graduate Programs; BSME 1961, MS 1962, PhD 1970, Iowa

**Folker, Cathleen**—1999; Lecturer, Management; BA 1978, MSBA 1995, PhD 1999, Texas Tech

**Jones, M. Colleen**—1996; Assistant Professor, Management; BBA, Iowa, 1972; MBA, USC, 1973; DBA, George Washington, 1992

**Lee, Sang M.**—1976; University Eminent Scholar; FirsTier Bank and Regents Distinguished Professor and Chair, Management; Executive Director, Nebraska Productivity and Entrepreneurship Center; BA, Seoul (Korea), 1961; MBA, Miami (Ohio), 1963; PhD, Georgia, 1969

**Lee, Zoonky (Chris)**—1999; Assistant Professor, Management; BS, Seoul (Korea), 1985; MS, Michigan (Ann Arbor), 1987; MS, Carnegie (Mellon), 1991; PhD, UCLA, 1998

**Luthans, Fred**—1967; George Holmes University Professor, Management; BA 1961, MBA 1962, PhD 1965, Iowa

**May, Douglas R.**—1991; Associate Professor, Management; BA, Kansas (Lawrence), 1981; MA, Missouri (Columbia), 1986; PhD, Illinois (Champaign-Urbana), 1991

**Nah, Fiona**—1998; Assistant Professor, Management; BS 1988, MSC 1992, Singapore; PhD, British Columbia, 1998

**Schniederjans, Marc J.**—1981; Professor, Management; BS, Missouri (St. Louis), 1972; MBA 1974, PhD 1978, St. Louis

**Schwendiman, Gary**—1973; Professor, Management; BS, Washington State, 1962; MS 1968, PhD 1971, Brigham Young

**Sebra, Terrence C.**—1991; Associate Professor, Management; Director, Nebraska Center for Entrepreneurship; BA 1968, MA 1970, St. Johns; MBA, Wisconsin (Oshkosh), 1984; PhD, North Carolina (Chapel Hill), 1992

**Siau, Keng Leng**—1996; Assistant Professor, Management; BS 1989, MS 1991, National University of Singapore; PhD, British Columbia (Canada), 1996

**Sommer, Steven M.**—1989; Associate Professor, Management; BA, California (Berkley), 1980; MBA, California (San Diego), 1984; PhD, California (Irvine), 1989

**Swenseth, Scott**—1987; Associate Professor, Management; BS, Moorhead State, 1980; MBA, Gonzaga, 1981; PhD, Texas A&M, 1988

**Thorp, Cary D., Jr.**—1970; Associate Professor, Management; BJ 1957, MS 1961, PhD 1970, Missouri

### Marketing

**Arnould, Eric J.**—1999; Associate Professor, Marketing; BA, Bard College, 1973; MA 1975, PhD 1982, Arizona

**Ball, A. Dwayne**—1986; Associate Professor, Marketing; BA, Rice, 1973; MA 1979, PhD 1982, Ohio State

**Curtis, William W.**—1970; Associate Professor, Marketing; BS, Idaho, 1961; MA 1962, PhD 1967, Illinois

**Gentry, James W.**—1987; Professor, Marketing; BS, Kansas State, 1969; MBA 1971, DBA 1973, Indiana

**Grossbart, Sanford L.**—1972; W.W. Marshall Professor and Chairman, Marketing; BSBA 1966, MBA 1967, PhD 1972, Florida

**Hampton, Ronald**—1984; Hollman Associate Professor, Marketing; Associate Dean, College of Business Administration; BSBA 1972, MBA 1978, Missouri State; PhD, Arkansas, 1984

**Kennedy, Patricia**—1989; Associate Professor, Marketing; BBA 1979, MBA 1980, Oregon; PhD, Oregon, 1990

**Mittelstaedt, Robert A.**—1973; Nathan Gold Distinguished Professor, Marketing; BS, South Dakota, 1958; MA, Arizona, 1960; PhD, Minnesota, 1966

**Price, Linda L.**—1999; Professor, Marketing and Director of the Agribusiness Program; BA, Wyoming, 1974; MBA 1976, PhD 1983, Texas

**Sohi, Ravi**—1991; Associate Professor, Marketing; BE 1980, MBA 1982, Bombay; MS 1986, PhD 1991, Wisconsin

## College of Engineering and Technology

### Architectural Engineering

**Henze, Gregor**—1999; Assistant Professor, Architectural Engineering; BS, TEC Berlin, 1989; MS, Oregon State, 1991; PhD, Colorado, 1995

**Houser, Kevin**—1998; Assistant Professor, Architectural Engineering; BAE 1993, PhD 1997, Penn State

**Liu, Mingsheng**—1999; Assistant Professor, Architectural Engineering; BS 1982, MS 1984, Harbin; PhD, Texas A&M, 1992

**Tiller, Dale**—1999; Associate Professor, Architectural Engineering; BA, Carleton, 1983; Dphil, Oxford, 1989

**Yuill, Grenville**—1998; Professor, Architectural Engineering; BS, Manitoba, 1959; MS, Birmingham, 1961; PhD, Minnesota, 1972

### Biological Systems Engineering

**Bashford, Leonard L.**—1980; Professor, Biological Systems Engineering; BS, Wyoming, 1963; MS, Arizona, 1965; PhD, Oklahoma State, 1972

**Benham, Brian**—1996; Assistant Professor\*, Biological Systems Engineering and South Central Research and Extension Center; BS 1986, MS 1990, Texas A&M; PhD, Tennessee, 1995

**Brand, Rhonda**—1997; Assistant Professor, Biological Systems Engineering; BS 1983, MS 1985, PhD 1992, Michigan

**Clements, L. Davis**—1984; Professor\*, Biological Systems Engineering, Animal Science, and Chemical Engineering; BS, Oklahoma State, 1966; MS, Illinois, 1968, PhD, Oklahoma, 1973

**Dickey, Elbert C.**—1978; Professor, Biological Systems Engineering and Associate Dean, Cooperative Extension Service; BS 1970, MS 1974, PhD 1978, Illinois

**Edwards, Donald M.**—1989; Professor, Biological Systems Engineering; Dean, College of Agricultural Sciences and Natural Resources; BS 1960, MS 1961, South Dakota State; PhD, Purdue, 1966

**Eisenhauer, Dean E.**—1975; Professor, Biological Systems Engineering; BS 1971, MS 1973, Kansas State; PhD, Colorado State, 1984

**Franti, Thomas G.**—1993; Assistant Professor\*, Biological Systems Engineering; BS, Wisconsin (Madison), 1983; MS, Iowa State, 1985; PhD, Purdue, 1987

**Grisso, Robert D. Jr.**—1985; Professor\*, Biological Systems Engineering; BS 1978, MS 1980, Virginia Polytechnic Institute; PhD, Auburn, 1985

**Hanna, Milford A.**—1975; Professor, Biological Systems Engineering and Food Science and Technology; Director, Industrial Ag Products Center; BS 1969, MS 1971, PhD 1973, Penn State

**Hay, DeLynn R.**—1981; Associate Professor\*, Biological Systems Engineering; BS 1966, MS 1967, Nebraska (Lincoln)

**Hoffman, Glenn J.**—1989; Professor\* and Head, Biological Systems Engineering; BS 1963, MS 1963, Ohio State; PhD, North Carolina State, 1967

**Jones, David D.**—1989; Associate Professor, Biological Systems Engineering; BS 1984, MS 1986, Texas A&M; PhD, Oklahoma State, 1988

**Kocher, Michael F.**—1990; Associate Professor, Biological Systems Engineering; BS 1979, MS 1983, Nebraska (Lincoln); PhD, Oklahoma State, 1986

**Koelsch, Richard K.**—1995; Assistant Professor\*, Biological Systems Engineering and Animal Science; BS 1975, MS 1977, Kansas State; PhD, Cornell, 1992

**Kranz, William L.**—1985; Assistant Professor\*, Biological Systems Engineering and Northeast Research and Extension Center; BS, South Dakota State, 1976; MS, Nebraska (Lincoln), 1981

**Martin, Derrel L.**—1982; Professor, Biological Systems Engineering; BS 1975, MS 1979, Nebraska (Lincoln); PhD, Colorado State, 1984

**Meagher, Michael M.**—1989; Associate Professor, Food Science and Technology and Biological Systems Engineering; BS, Colorado State, 1980; MS 1984, PhD 1987, Iowa State

**Meyer, George E.**—1978; Professor, Biological Systems Engineering; BS, Cornell, 1967; MS 1971, PhD 1972, Massachusetts

**Schinstock, Jack L.**—1977; Professor, Biological Systems Engineering; Assistant Dean, College of Agricultural Sciences and Natural Resources; BA, Brockport State, 1970; MAg, Florida, 1974; EdD, Virginia Tech, 1977

**Schulte, Dennis D.**—1978; Professor, Biological Systems Engineering; BS, Nebraska (Lincoln), 1968; 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; Associate Professor\*, Biological Systems Engineering and Panhandle Research and Extension Center; BSME, Tri-State, 1970; MSAE, Wyoming, 1978

**Vanderholm, Dale H.**—1983; Professor, Biological Systems Engineering; Associate Dean and Director, Agricultural Research Division; BS 1962, MS 1969, Iowa State; PhD, Colorado State, 1972

**Watts, Darrell G.**—1971; Professor\*, Biological Systems Engineering; BS, Oklahoma State, 1960; MS, California (Davis), 1962; PhD, Utah State, 1975

**Weller, Curtis L.**—1992; Associate 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, Colorado State, 1978; MS 1986, PhD 1990, Nebraska (Lincoln)

**Yonts, C. Dean**—1980; Associate Professor\*, Biological Systems Engineering and Panhandle Research and Extension Center; BS 1974, MS 1978, Wyoming

## Chemical Engineering

**Brand, Jennifer**—1992; Assistant Professor, Chemical Engineering; BS 1973, MS 1978, Michigan; PhD, California (San Diego), 1992

**Clements, L. Davis**—1984; Professor, Chemical Engineering; BS, Oklahoma State, 1966; MS, Illinois, 1968; PhD, Oklahoma, 1973

**Eakman, James M.**—1997; Professor and Chair, Chemical Engineering; BS 1960, PhD 1966, Minnesota

**Hendrix, James**—1995; Professor, Chemical Engineering; Dean, College of Engineering and Technology; BS 1966, MS 1968, PhD 1969, Nebraska (Lincoln)

**Larsen, Gustavo**—1993; Associate Professor, Chemical Engineering; BS, Mar del Plata (Argentina), 1985; PhD, Yale, 1982

**Lauderback, Lee**—1990; Associate Professor, Chemical Engineering; BS 1975, MS 1977, PhD 1982, Purdue

**Noureddini, Hossein**—1994; Research Assistant Professor, Chemical Engineering; BS 1975, MS 1977, PhD 1991, Nebraska (Lincoln)

**Timm, Delmar C.**—1967; Professor, Chemical Engineering; BS 1962, MS 1965, PhD 1967, Iowa State

**Viljoen, Hendrik**—1992; Associate Professor, Chemical Engineering; BS 1979, MS 1981, PhD 1985, Pretoria (South Africa)

## Civil Engineering

**Admiraal, David M.**—1999; Assistant Professor, Civil Engineering; BS, Calvin College, 1991; MS 1993, PhD 1999, Illinois

**Azizinamini, Atorod**—1989; Associate Professor, Civil Engineering; BS, Oklahoma, 1977; MS 1982, PhD 1985, South Carolina

**Bakker, Mark**—1997; Assistant Professor\*\*, Civil Engineering; MS, Delft University of Technology (Netherlands), 1989; PhD, Minnesota, 1997

**Benak, Joseph, V.**—1967; Professor, Civil Engineering; BS, Nebraska (Lincoln), 1952; 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-Lincoln, Civil Engineering; BS, Iowa, 1974; MS 1976, PhD 1982, Iowa State

**Dvorak, Bruce**—1994; Associate Professor, Civil Engineering; BS, Nebraska (Lincoln), 1987; MS 1990, PhD 1994, Texas (Austin)

**Jones, Elizabeth G.**—1996; Assistant Professor\*\*, Civil Engineering; BS, Colorado State, 1984; MS 1988, PhD 1996, Texas (Austin)

**Krause, Gary L.**—1990; Associate Professor\*\*, Civil Engineering; BS 1982, MS 1986, Cincinnati; PhD, Michigan, 1990

**McCoy, Patrick T.**—1976; Professor, Civil Engineering; BS 1963, MS 1964, Iowa State; PhD, Texas A&M, 1971

**Moore, Raymond K.**—1997; Professor and Chair-Omaha, Civil Engineering; BSCE 1966, MS 1968, Oklahoma State; PhD, Texas (Austin), 1971

**Moussavi, Massoum**—1987; Associate Professor\*\*, Civil Engineering; BSCE, West Virginia Institute of Technology, 1980; MS 1982, PhD 1984, Virginia Polytechnical Institute

**Rizos, Dimitri**—1997; Assistant Professor, Civil Engineering; BS, Patras (Greece), 1987; MS 1989, PhD 1993, South Carolina

**Rohde, John R.**—1992; Associate Professor, Civil Engineering; BS 1981, MS 1983, PhD 1986, Iowa State

**Rosson, Barry T.**—1991; Associate Professor, Civil Engineering; BS 1983, MS 1985, Texas A&M; PhD, Auburn, 1991

**Seaburg, Paul A.**—1996; Professor, Civil Engineering and Associate Dean, College of Engineering and Technology; BS 1956, MS 1957, Minnesota; PhD, Wisconsin, 1969

**Sherrard, Joseph H.**—1999; Professor\*\*, Civil Engineering; BS, VMI, 1964; MS, California State (Sacramento), 1969; PhD, California (Davis), 1971

**Sicking, Dean**—1992; Associate Professor, Civil Engineering; BSME 1980, MSCE 1987, PhD 1992, Texas A&M

**Sneddon, Roy V.**—1968; Associate Professor, Civil Engineering; BS, Utah State, 1958; MS 1962, PhD 1966, Wisconsin

**Stansbury, John S.**—1995; Assistant Professor\*\*, Civil Engineering; BS, MS, PhD, Nebraska (Lincoln)

**Tadros, Maher K.**—1979; Professor\*\*, Civil Engineering; BS 1967, MS 1971, Assuit (Egypt); PhD, Calgary, 1975

**Tuan, Christopher Y.**—1996; Associate Professor\*\*, Civil Engineering; BS, National (Taiwan), 1977; MS 1979, PhD 1983, Wisconsin (Madison)

**Woldt, Wayne E.**—1998; Associate Professor\*, Civil Engineering; BS, Colorado State, 1978; MS 1986, PhD 1990, Nebraska (Lincoln)

**Zhang, Tian**—1994; Associate Professor\*\*, Civil Engineering; BS, Wuhan Polytechnical (Uuham, China); MS, Tsinghua (Beijing, China), 1982; PhD, Cincinnati, 1994

## Computer and Electronics Engineering

**Chen, Bing**—1969; Professor and Interim Chair, Computer and Electronics Engineering; BS 1967, MS 1970, PhD 1978, Nebraska (Lincoln)

**Jang, Won Mee**—1998; Assistant Professor, Computer and Electronics Engineering; BA, Minnesota, 1984; MS Computer Engineering, George Mason, 1987; DSCEE, George Washington, 1996

**Kulik, Thad**—1979; Associate Professor, Computer and Electronics Engineering; Diplom-Ingen, Technische Universität (Berlin), 1975

**Nyugen, Lim**—1996; Assistant Professor, Computer and Electronics Engineering; BSEE, BS Math, MIT, 1983; MSEE, California Institute of Technology, 1991; PhD, Rice, 1996

**Park, Jin-Soo**—1998; Assistant Professor, Computer and Electronics Engineering; BSEE 1986, MSEE 1988, Korea Advanced Institute of Science and Technology; PhDEE Polytechnic (New York), 1998

**Sash, Roger D.**—1976; Associate Professor, Computer and Electronics Engineering; BS, Iowa State, 1967; MS, Nebraska (Lincoln), 1980

**Sedlacek, Charles L.**—1958; Professor, Computer and Electronics Engineering; BA 1959, MS 1967, Nebraska (Omaha)

**Sharif-Kashani, Hamid**—1986; Associate Professor, Computer and Electronics Engineering; Technology; BSEE, Iowa, 1982; MSEE, Missouri (Columbia), 1984; PhD, Nebraska (Lincoln), 1996

## Computer Science and Engineering

**Bhattacharya, Prabir**—1986; Professor, Computer Science and Engineering; MA, Delhi (India), 1970; PhD, Oxford (United Kingdom), 1979

**Choueiry, Berthe**—1999; Assistant Professor, Computer Science and Engineering; MS 1974, PhD 1994, Swiss Federal Institute of Technology of Lausanne (Switzerland)

**Daniel Charles**—1997; Instructor, Computer Science and Engineering; BS 1992, MS 1995, Nebraska (Lincoln)

**Deogun, Jitender**—1981; Professor, Computer Science and Engineering; MS, Delhi (India), 1970; MS 1974, PhD 1979, Illinois (Urbana)

**Dunbar, Steven R.**—1985; Courtesy Professor, Mathematics and Statistics; BS, Nebraska (Lincoln), 1974; PhD, Minnesota, 1984

**Elbaum, Sebastian**—1999; Assistant Professor, Computer Science and Engineering; BS, Universidad Católica de Córdoba (Argentina), 1995; MS 1997, PhD 1999, Idaho (Moscow)

**Fayad, Mohamed**—1999; Associate Professor, Computer Science and Engineering; BS, Cairo (Egypt), 1972; MS 1993, PhD 1994, Minnesota

**Goddard, Steve**—1998; Assistant Professor, Computer Science and Engineering; BA 1985, MS 1995, Minnesota; PhD, North Carolina (Chapel Hill), 1998

**Henninger, Scott**—1992; Associate Professor, Computer Science and Engineering; BS, USC, 1983; MS 1990, PhD 1992, Colorado

**Jiang, Hong**—1991; Associate Professor, Computer Science and Engineering; BS, Huazhong University of Science and Technology (People's Republic of China), 1982; MS, Toronto (Canada), 1987; PhD, Texas A&M, 1991

**Kieckhafer, Roger**—1987; Associate Professor, Computer Science and Engineering; BS, Wisconsin (Madison), 1974; MS 1982, PhD 1983, Cornell

**Magliveras, Spyros**—1978; Henson Professor, Computer Science and Engineering; BS 1961, MA 1963, Florida; PhD, Birmingham (England), 1970

**Narayanan, Ram M.**—1988; Courtesy Professor, Electrical Engineering; BS, Indian Institute of Technology, 1976; PhD, Massachusetts, 1988

**Ramamurthy, Byrav**—1998; Assistant Professor, Computer Science and Engineering; BTech, Indian Institute of Technology (Madras), 1993; MS 1995, PhD 1998, California (Davis)

**Reichenbach, Stephen E.**—1989; Associate Professor and Chair, Computer Science and Engineering; BA, Nebraska (Lincoln), 1976; MS, Washington (St. Louis), 1984; PhD, William & Mary (Virginia), 1989

**Revesz, Peter**—1992; Associate Professor, Computer Science and Engineering; BS, Tulane (New Orleans), 1985; MS 1987, PhD 1991, Brown

**Riedesel, Charles**—1995; Senior Lecturer and Chief Undergraduate Adviser, Computer Science and Engineering; BS, Wheaton (Illinois), 1973; MS 1992, PhD 1995, Nebraska (Lincoln)

**Samal, Ashok**—1988; Associate Professor, Computer Science and Engineering; BS, Indian Institute of Technology, 1983; PhD, Utah, 1988

**Scott, Stephen D.**—1998; Assistant Professor, Computer Science and Engineering; BS 1992, MS 1994, Nebraska (Lincoln); PhD, Washington (St. Louis), 1998

**Seth, Sharad**—1970; Professor, Computer Science and Engineering; BS, Kanpur (India), 1966; PhD, Illinois, 1970

**Surkan, Alvin J.**—1969; Professor, Computer Science and Engineering; BS, Alberta, 1954; MA, Toronto, 1956; PhD, West Ontario, 1959

**Waltman, William**—1999; Research Coordinator, Computer Science and Engineering; BS 1978, MS 1981, PhD 1985, Pennsylvania

**Zygielbaum, Arthur I.**—1998; Courtesy Assistant Professor, University Television; BS, UCLA, 1968; MSEE, USC, 1995

## Construction Management

**Berryman, Charles W.**—1996; Assistant Professor, Construction Management; BS 1991, MS 1992, PhD 1995, Texas A&M

**Harmon, Paul**—1980; Associate Professor and Chair, Construction Management; BSCE 1972, MS 1976, Nebraska (Lincoln)

**Khattab, Mostafa**—1990; Associate Professor, Construction Management; BS 1976, MS 1981, Egypt; PhD, Nebraska (Lincoln), 1989

**Kirk, W. Max**—1991; Associate Professor, Construction Management; BS, Washington State, 1977; BA, Eastern Washington, 1985; MStech, Arizona State, 1990

**Stentz, Terry**—1998; Assistant Professor, Construction Management; BA 1970, BS 1974, AM 1978 Nebraska (Lincoln); MA, Dartmouth, 1989; MSIE 1996, PhD 1997, Nebraska (Lincoln)

**Swoboda, Linda**—1991; Associate Professor, Construction Management; BS (Arch) 1981, BS (ConstMgt) 1984, MBA 1993, Nebraska (Lincoln)

**Wentz, Timothy G.**—1996; Assistant Professor, Construction Management; BSME 1975, MBA 1976, Nebraska (Lincoln)

**Wright, Eugene**—1982; Associate Professor, Construction Management; BArch 1958; MArch 1984, Nebraska (Lincoln)

## Construction Systems Technology

**Brenneman, R. Michael**—1982; Senior Lecturer, Construction Systems Technology; BS 1968, MS 1971, MBA 1982, Nebraska (Omaha)

**Cook, Robert L.**—1986; Associate Professor, Construction Systems Technology; BSCE, Missouri (Rolla), 1970; MSCE, Missouri (Columbia), 1975

**Foster, E. Terence**—1992; Associate Professor, Construction Systems Technology; SB 1963, SM 1964, MIT; PhD, California, 1967

**Goedert, James D.**—1989; Associate Professor, Construction Systems Technology; BS, Nebraska (Omaha), 1983; MBA, Indiana (South Bend), 1989; PhD, Nebraska (Lincoln), 1996

**Haggan, Ronald K.**—1979; Associate Professor, Construction Systems Technology; BS 1967, MArch 1974, BSCE 1977, Texas A&M

**Holmes, William W.**—1976; Associate Professor and Chairman, Construction Systems Technology; BA, Hastings, 1966; BArch, Nebraska (Lincoln), 1967

**Pedersen, Keith E.**—1976; Assistant Professor, Construction Systems Technology; BArch 1972, MS 1981, Nebraska (Lincoln)

**Sires, Thomas H.**—1984; Professor, Construction Systems Technology; Minorities in Engineering Coordinator—Nebraska (Lincoln); BS 1960, BS 1971, MS 1967, Nebraska (Omaha)

**Sokol, Ted T.**—1965; Professor, Construction Systems Technology; BS, Nebraska (Omaha), 1965; MS, Nebraska (Lincoln), 1967; PhD, Kansas State, 1982

**Tadros, Maher K.**—1979; Professor\*\*, Construction Systems Technology; BS 1967, MS 1971, Assiut (Egypt); PhD, Calgary, 1975

## Electrical Engineering

**Alexander, Dennis R.**—1976; Kingery College Professor, Electrical Engineering; BS 1971, MS 1973, PhD 1976, Kansas State

**Asgarpoor, Sohrab**—1989; Associate Professor, Electrical Engineering; BSc 1978, MSc 1981, PhD 1986, Texas A&M

**Bahar, Ezekiel**—1967; George Holmes Distinguished Professor, Electrical Engineering; BS 1958, MS 1960, Institute of Technology (Israel); PhD, Colorado, 1964

**Balkir, Sina**—1998; Visiting Assistant Professor, Electrical Engineering; BS, Bogazici, 1987; MS 1989, PhD 1992, Northwestern

**Bandyopadhyay, Supriyo**—1996; Professor, Electrical Engineering; BS, Indian Institute of Technology, 1980; MS, Southern Illinois, 1982; PhD, Purdue, 1985

**Boye, A. John**—1974; Associate Professor and Assistant Chair, Electrical Engineering; BS 1968, MS 1973, PhD 1984, Nebraska (Lincoln)

**Dillon, Rodney O.**—1986; Associate Professor, Electrical Engineering; BS, California, 1965; MS 1970, PhD 1974, Maryland

**Hoffman, Michael**—1993; Associate Professor, Electrical Engineering; BS, Rice 1985; MS, USC, 1987; PhD, Minnesota, 1992

**Ianno, Natale J.**—1981; Professor, Electrical Engineering; BS 1978, MS 1980, PhD 1981, Illinois

**Jorgensen, James L.**—1998; Visiting Associate Professor, Electrical Engineering; BS 1965, MS 1966, Nebraska (Lincoln); PhD, New Mexico, 1974

**Narayanan, Ram M.**—1988; Associate Professor, Electrical Engineering; BS, Indian Institute of Technology, 1976; PhD, Massachusetts, 1988

**Nelson, Don J.**—1955; Professor, Electrical Engineering; BS 1953, MS 1958, Nebraska (Lincoln); PhD, Stanford, 1962

**Palmer, Robert**—1993; Associate Professor, Electrical Engineering; BS 1984, MS 1986, PhD 1989, Oklahoma

**Perez, Lance C.**—1996; Assistant Professor, Electrical Engineering; BS, Virginia, 1987; MS 1989, PhD 1994, Notre Dame

**Sayood, Khalid**—1982; Henson College Professor, Electrical Engineering; BS 1977, MS 1979, Rochester; PhD, Texas A&M, 1982

**Snyder, Paul G.**—1985; Associate Professor, Electrical Engineering; BS, Texas Tech, 1979; MS 1981, PhD 1984, USC

**Soukup, Rodney J.**—1976; Henson College Professor and Chairman, Electrical Engineering; BS 1961, MS 1964, PhD 1969, Minnesota

**Throne, Robert D.**—1991; Associate Professor, Electrical Engineering; BS 1980, BSE 1985, MIT; MSE 1987, PhD 1990, Michigan

**Vakilzadian, Hamid**—1985; Associate Professor, Electrical Engineering; BS, Arya-Mehr (Iran), 1971; MS 1978, PhD 1985, Arizona

**Varner, Jerald L.**—1959; Associate Professor, Electrical Engineering; BS 1963, MS 1965, PhD 1972, Nebraska (Lincoln)

**Williams, P. Frazer**—1984; Lott College Professor, Electrical Engineering; BS, California Tech, 1967; PhD, USC, 1973

**Woolam, John A.**—1979; George Holmes Distinguished Professor, Electrical Engineering; BS, Kenyon, 1961; MS 1963, PhD 1967, Michigan State; MS, Case Western, 1978

## Engineering Mechanics

**Baesu, Eveline**—1998; Assistant Professor, Engineering Mechanics; MS, Bucharest, 1987; PhD, Berkeley, 1998

**Beatty, Millard E., Jr.**—1990; Professor and Chairman, Engineering Mechanics; BES 1959, PhD 1964, John Hopkins

**Chou, Seh-Ieh**—1964; Professor, Engineering Mechanics; BS, Taiwan, 1955; MS 1960, PhD 1965, Wisconsin

**DeLorm, Richard T.**—1966; Associate Professor, Engineering Mechanics; BS 1960, MS 1967, PhD 1975, Nebraska (Lincoln)

**Dzenis, Yuris A.**—1994; Associate Professor, Engineering Mechanics; MS, Latvian State, 1982; PhD, Latvian Academy of Sciences, 1990; PhD, Texas (Austin), 1994

**Feng, Ruqiang**—1997; Assistant Professor, Engineering Mechanics; MS 1991, PhD 1992, Johns Hopkins

**Negahban, Mehrdad**—1989; Associate Professor, Engineering Mechanics; BS, Iowa, 1982; MS 1984, PhD 1988, Michigan

**Pao, Yen-Ching**—1966; Professor, Engineering Mechanics; MS 1959, MA 1961, Utah; PhD, Cornell, 1965

**Piltner, Reinhard**—1996; Assistant Professor, Engineering Mechanics; MS 1976, PhD 1982, Ruhr-Universität Bochum (Germany)

**Safjan, Andrzej J.**—1995; Assistant Professor, Engineering Mechanics; MS, Technological University of Krakow (Poland), 1984; PhD, Texas (Austin), 1993

**Turner, Joseph**—1997; Assistant Professor, Engineering Mechanics; BS 1988, MEng 1988, Iowa State; PhD, Illinois (Urbana), 1994

**Wu, Mao See**—1990; Associate Professor, Engineering Mechanics; BS, University of London, 1985; MS 1986, PhD 1990, MIT

**Yang, Jiashi**—1997; Assistant Professor, Engineering Mechanics; MS, Syracuse, 1988; MA 1990, PhD 1994, Princeton

## Industrial Systems Technology

**Bonsell, John**—1982; Associate Professor, Industrial Systems Technology; BS 1979, MS 1980, Chadron

**Buhman, Richard J.**—1970; Associate Professor, Industrial Systems Technology; BS, Iowa, 1960; MS, Nebraska (Lincoln), 1977

**Merkel, Kenneth G.**—1978; Professor, Industrial Systems Technology; BS, Washington, 1960; MBA 1969, MS 1975, Case Western Reserve; BS, Lake Erie, 1976; MA 1983, PhD 1984, Fielding Institute; MSIE, Nebraska (Lincoln), 1994

**Morse, Julia**—1996; Assistant Professor, Industrial Systems Technology; BA, Tennessee, 1993; MS, Auburn, 1996

**Schwer, Avery D.**—1986; Associate Professor, Industrial Systems Technology; BS 1974, MA 1977, Wisconsin

**Thorp, John S.**—1977; Associate Professor and Chair, Industrial Systems Technology; MS, Rochester Institute of Technology, 1975

## Industrial and Management Systems Engineering

**Adams, Stephanie G.**—1998; Assistant Professor, Industrial and Management Systems Engineering; BSME, North Carolina A&T, 1989; ME, Virginia, 1991; PhD, Texas A&M, 1998

**Ballard, John L.**—1974; Professor, Industrial and Management Systems Engineering; Associate Dean, College of Engineering and Technology; BSIE 1971, MSIE 1972, PhD 1974, Arkansas

**Bishu, Ramaratnam R.**—1985; Professor, Industrial and Management Systems Engineering; BTech, India, 1970; MS 1983, PhD 1986, New York (Buffalo)

**Choobineh, Fred**—1978; Professor, Industrial and Management Systems Engineering; 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

**Elias, Samy E. G.**—1988; Professor, Industrial and Management Systems Engineering; BS, Cairo, 1955; MS, Texas A&M, 1958; PhD, Oklahoma State, 1960

**Hallbeck, M. Susan**—1989; Associate Professor, Industrial and Management Systems Engineering; BSIE, Iowa State, 1984; MSIE, Texas Tech, 1985; PhD, Virginia Polytechnic Institute, 1990

**Hoffman, Richard O.**—1970; Professor, Industrial and Management Systems Engineering; BS 1963, MS 1966, Iowa State; PhD, Virginia Polytechnical Institute, 1971

**Rajurkar, Kamlakar P.**—1983; Professor, Industrial and Management Systems Engineering; BE, Jabalpur (India), 1966; MS 1978, PhD 1981, Michigan Tech

**Riley, Michael W.**—1975; Professor and Chairman, Industrial and Management Systems Engineering; BSEE, Missouri (Rolla), 1968; MSME, New Mexico State, 1973; PhD, Texas Tech, 1975

**Savory, Paul A.**—1994; Assistant Professor, Industrial and Management Systems Engineering; BSCS 1988, MSOR 1989, Oregon State; PhD, Arizona State, 1993

**Schneider, Morris H.**—1965; Professor Emeritus, Industrial and Management Systems Engineering; BS 1951, BS 1959, Nebraska (Lincoln); MS, Kansas State, 1961; PhD, Oklahoma State, 1966

**Williams, Robert E.**—1993; Associate Professor, Industrial and Management Systems Engineering; BS, Lehigh, 1984; MS 1989, PhD 1993, Nebraska (Lincoln)

## Mechanical Engineering

**Arnold, Richard C.**—1995; Visiting Associate Professor, Mechanical Engineering; BS 1961, PhD 1970, Kansas State

**Barton, John P.**—1986; Associate Professor, Mechanical Engineering; BS, Missouri, 1973; MS 1974, PhD 1980, Stanford

**Cole, Kevin D.**—1988; Associate Professor, Mechanical Engineering; BS, Iowa State, 1977; MS, Minnesota, 1979; PhD, Michigan State, 1986

**Farritor, Shane M.**—1998; Assistant Professor, Mechanical Engineering; BS, Nebraska (Lincoln), 1992; MS 1994, PhD 1998, MIT

**Gogos, George**—1993; Associate Professor, Mechanical Engineering; BS, MIT, 1980; MS 1982, PhD 1986, Pennsylvania

**Homan, Kelly**—1997; Assistant Professor, Mechanical Engineering; BS, Dordt, 1990; MS 1992, PhD 1996, Illinois (Urbana-Champaign)

**Lou, David Y. S.**—1993; Professor and Chair, Mechanical Engineering; BS, National Taiwan, 1959; MS 1963, ScD 1967, MIT

**Olson, Lorraine G.**—1991; Professor, Mechanical Engineering; BS 1980, MS 1983, PhD 1985, MIT

**Peters, Alexander R.**—1966; Professor, Mechanical Engineering; BS 1959, MS 1963, Nebraska (Lincoln); PhD, Oklahoma State, 1967

**Reid, John**—1993; Assistant Professor, Mechanical Engineering; BS 1981, MS 1983, PhD 1990, Michigan State

**Robertson, Brian**—1990; Associate Professor, Mechanical Engineering; BSc 1975, PhD 1979, Glasgow (Scotland)

**Rohde, Suzanne L.**—1992; Associate Professor, Mechanical Engineering; BS, Iowa State, 1985; MS 1988, PhD 1991, Northwestern

**Schade, George R.**—1979; Associate Professor, Mechanical Engineering; BS 1967, MS 1969, PhD 1974, Iowa State

**Szydlowski, Wieslaw**—1983; Associate Professor, Mechanical Engineering; MS 1966, PhD 1975, Technical University of Warsaw (Poland)

**To, C. W. Solomon**—1996; Professor, Mechanical Engineering; BS, Southampton, 1973; MS, Calgary, 1975; PhD, Southampton, 1980

**Weins, William**—1979; Associate Professor, Mechanical Engineering; BS, Morningside, 1975; PhD, Iowa State, 1980

## College of Fine and Performing Arts

### Art and Art History

**Bartels, Ron**—1989; Associate Professor (Art), Art and Art History; BFA, Kansas City Art Institute, 1970; MFA, California Institute of Arts, 1972

**Bolland, Andrea**—1994; Assistant Professor (Art History), Art and Art History; BA, Washington, 1982; MA 1986, PhD 1992, North Carolina

**Dominguez, Eddie**—1998; Assistant Professor (Art), Art and Art History; BFA, Cleveland Institute of Art, 1981; MFA, New York State College of Ceramics at Alfred University, 1983

**Fritz, Dana**—1998; Assistant Professor (Art), Art and Art History; BFA, Kansas City Art Institute, 1992; MFA, Arizona State, 1995

**Fuller, Shelley**—1991; Associate Professor (Art), Art and Art History; BA, Augustana, 1981; MFA, Nebraska (Lincoln), 1989

**Hoff, Michael C.**—1989; Associate Professor (Art History), Art and Art History; AB, Missouri, 1977; MA, Florida State, 1982; PhD, Boston, 1988

**Horvay, Martha**—1983; Professor (Art), Art and Art History; BS, Michigan, 1971; MA, Louisville, 1974; MFA, Temple, 1980

**Ingraham, Elizabeth**—1998; Assistant Professor (Art), Art and Art History; BA, Colorado, 1969; JD, Denver, 1973; MFA, California (Santa Barbara), 1992

**Jacobshagen, N. Keith**—1968; Professor (Art), Art and Art History; BFA, Art Institute (Kansas City), 1965; MFA, Kansas, 1968

**Kendall, Gail**—1987; Professor (Art), Art and Art History; BFA 1966, MFA 1974, Michigan

**Kunc, Karen**—1983; Professor (Art), Art and Art History; BFA, Nebraska (Lincoln), 1975; MFA, Ohio State, 1977

**Mamiya, Christin**—1987; Professor (Art History), Art and Art History; BA, Yale, 1977; MA 1982, PhD 1987, California (Los Angeles)

**Neal, Maureen (Mo)**—1994; Assistant Professor (Art), Art and Art History; BA, Washington State, 1988; MFA, Virginia Commonwealth, 1991

**Pinnell, Peter**—1995; Assistant Professor (Art), Art and Art History; BAIS, Columbia (Missouri), 1976; BFA, Alfred (New York), 1980; MFA, Colorado, 1982

**Read, Dave**—1978; Professor (Art), Art and Art History; BFA 1963, MFA 1985, Ohio (Athens)

**Rowan, Patrick**—1971; Professor (Art), Art and Art History; BFA 1969, MS 1970, Wisconsin-Milwaukee; MFA, Florida (Gainesville), 1971

**Ruffo, Joseph M.**—1984; Professor (Art) and Chair, Art and Art History; BFA, Pratt Institute, 1963; MFA, Cranbrook Academy of Art, 1965

**Stewart, Alison**—1989; Associate Professor (Art History), Art and Art History; BA, Syracuse, 1973; MA, Queens College, 1976; PhD, Columbia, 1986

**Sullivan, Tom**—1997; Assistant Professor (Art), Art and Art History; BA, Rhode Island, 1981; MFA, Yale, 1996

### Dance

**Fusillo, Lisa**—1990; Professor (Dance), Theatre Arts and Dance; BS, George Washington, 1976; Professional Teaching Diploma, Royal Ballet, London England, 1975; MA 1978, PhD 1982, Texas Woman's

**Swanson, Kari**—1993; Lecturer (Dance), Music; BFA, Nebraska (Lincoln), 1993

### Music

**Anderson, Scott**—1996; Assistant Professor (Trombone), Music; BM, Iowa State, 1985; MM, Northwestern, 1987; DMA, Minnesota, 1995

**Bailey, John**—1986; Professor (Flute), Music; BS, Indiana, 1980; MM 1981, DMus 1987, Northwestern

**Barnes, Paul**—1995; Assistant Professor (Piano), Music; BM 1985, MM 1987, DM 1992, Indiana

**Becker, Karen**—1995; Assistant Professor (Cello), Music; BM, Ohio, 1984; MM 1986, DMA 1999, Texas (Austin)

**Bybee, Ariel**—1998; Senior Lecturer (Voice), Music; BSME, Brigham Young, 1965

**Cawein, Diane**—1994; Assistant Professor (Clarinet), Music; BM, Florida State, 1988; MM, Northwestern, 1989; DM, Florida State, 1999

**Chang-Barnes, Ann**—1995; Senior Lecturer (Piano), Music; BM 1985, MM 1987, DM 1993, Indiana

**Clinton, Mark**—1995; Assistant Professor (Piano), Music; BM 1984, MM 1986, Peabody Conservatory of Johns Hopkins; DMA, Rice, 1989

**Cochran, Michael**—1999; Assistant Professor (Voice), Music; BM, Oklahoma City, 1993; MM, Wichita State, 1995; DMA, Ohio State, 1999

**Cole, Judy**—1974; Associate Professor (Voice), Music; BM 1971, MM 1973 Louisiana State

**Curtright, Carolee**—1976; Professor (Music Education), Music; BS, Culver-Stockton, 1956; MM, Nebraska (Lincoln), 1976

**Echols, Gary**—1969; Professor (Woodwinds), Music; BA 1961, MA 1963, California (Santa Barbara)

**Eklund, Peter**—1998; Assistant Professor (Choral), Music; Director of Choral Activities; BM 1980, MA 1982, DMA 1992, Iowa

**Enerson, Julie**—1997; Lecturer (Choral), Music; BS, Nebraska (Lincoln), 1985

**Faulkner, Quentin**—1974; Professor (Organ and Music History), Music; BM, Westminster Choir College, 1965; MSM 1967, MTh 1969, Southern Methodist; SMD, Union Theological Seminary, 1974

**Fought, Robert**—1974; Professor, Music; Associate Director, School of Music; BS, Pennsylvania State, 1964; MM, Northwestern, 1965; EdD, Pennsylvania State, 1971

**French, Allen**—1988; Associate Professor (Horn), Music; BM, Florida State, 1977; MM, North Texas State, 1986

**Fuller, Craig**—1989; Senior Lecturer (Tuba and Euphonium), Music; BM, Indiana, 1978

**Harler-Smith, Donna**—1976; Professor (Voice), Music; BA, Denison, 1966; MM, Cincinnati Conservatory, 1968

**Holloway, Peggy**—1997; Assistant Dean (Voice), Music; BM 1982, MM 1985, Nebraska (Omaha); DMA, Nebraska (Lincoln), 1994

**Kloecker, John H.**—1987; Associate Professor (Band), Music; Director of Bands; BME, Kentucky, 1980; MM, Florida State, 1987

**Kraus, Joseph**—1984; Associate Professor (Music Theory), Music; BM, Eastman Music, 1977; MM, Indiana, 1981; PhD, Eastman Music, 1987

**Larson, Thomas**—1996; Lecturer (Jazz), Music; BM, Berklee, 1977; MM, Nebraska (Lincoln), 1984

**Lefferts, Peter M.**—1989; Associate Professor (Music History), Music; BA 1973, MA 1978, PhD 1983, Columbia

**Mallett, Catherine**—1993; Lecturer (Music Education), Music; BME, Millikin, 1977; MA, Iowa, 1981

**Mallett, Lawrence**—1993; Professor, Music; Director, School of Music; BM, Iowa, 1969; MM, Ohio State, 1971; DMA, Iowa, 1981

**McMullen, William**—1986; Associate Professor (Oboe and Music Theory), Music; BME, Baldwin-Wallace Conservatory, 1974; MM 1980, DMA 1985, Juilliard

**Michel, James**—1968; Professor (Music Theory), Music; BM 1962, MM 1963, Wisconsin

**Moeser, Susan**—1996; Senior Lecturer (Organ), Music; BM 1975, MM 1977, DMA 1982, Kansas

**Moore, Brian**—1986; Associate Professor (Music Education), Music; BA and BM, New Hampshire, 1977; MM 1982, PhD 1986, Wisconsin

**Narboni, Nicole**—1995; Senior Lecturer (Piano), Music; BM, Austin, 1985; MM, Rice, 1988; DMA, John Hopkins, 1992

**Neely, David**—1993; Associate Professor (Violin), Music; BM, Iowa State, 1984; MFA, California Institute of Arts, 1987

**Nierman, Glenn**—1979; Professor (Music Education), Music; BM, Washburn, 1972; MM 1977, DME 1979, Cincinnati

**Potter, Clark**—1996; Assistant Professor (Viola), Music; BM, Western Washington, 1983; MM, Indianola, 1985; MFA, California Institute of the Arts, 1987

**Reinhardt, Deborah**—1995; Assistant Professor (Music Education), Music; BME, Ohio, 1977; MM, Ithaca, 1987; PhD, Case Western Reserve, 1990

**Reist, Joan M.**—1975; Assistant Professor (Piano), Music; BME 1957, MM 1981, Nebraska (Lincoln)

**Ritchie, George**—1972; Professor (Organ and Music History/Theory), Music; BA 1962, MM 1963, Redlands; SMM Union Theological, 1967; DMus, Indiana, 1974

**Rometo, Albert**—1972; Professor (Percussion), Music; Vice Director School of Music; BSEd, Indiana, 1970; MM, Ohio (Athens), 1972

**Shomos, William**—1994; Assistant Professor (Voice), Music; Director, Opera Program; BA, Knox, 1982; MM, Northwestern, 1983

**Smith, Gene**—1998; Assistant Professor (Jazz and Saxophone), Music; Director of Jazz Activities; BM, North Texas, 1988; MM, Howard, 1995

**Snyder, Randall**—1974; Professor (Music Theory/Composition), Music; BA, Quincy, 1966; MM 1967, DMA 1973, Wisconsin

**Starr, Pamela**—1987; Associate Professor (Music History), Music; BA, Harpur, 1966; MLS, Columbia, 1975; PhD, Yale, 1987

**White, Darryl**—1997; Assistant Professor (Trumpet), Music; BM, Youngstown State, 1987; MM, Northwestern, 1991

**White, Russell**—1981; Associate Professor (Double Bass and Jazz Performance), Music; BM, Cincinnati Conservatory, 1977; MM, North Texas State, 1982

**White, Tyler**—1994; Assistant Professor (Orchestra), Music; Director of Orchestral Activities; AB, North Carolina, 1983; MFA 1986, DMA 1991,

## Theatre Arts

**Behrendt, Patricia Flanagan**—1992; Associate Professor (Theatre Arts), Theatre Arts; BA, Eastern Kentucky, 1970; MA, Penn State, 1980; PhD, Nebraska (Lincoln), 1989

**Brown, Stan**—2000; Associate Professor (Theatre Arts), Theatre Arts; BA 1984, MFA 1989, South Carolina

**Durst, Richard**—1996; Professor (Theatre Arts), Theatre Arts; Dean, College of Fine and Performing Arts; BA, Missouri Western State, 1972; MFA, Oklahoma, 1974

**Elwell, Jeffery**—1999; Professor and Chair (Theatre Arts), Theatre Arts; BA, California State (Bakersfield), 1979; MS, Southwestern Louisiana, 1982; PhD, Southern Illinois, 1986

**Grange, William**—1996; Associate Professor (Theatre Arts), Theatre Arts; BA, Toledo, 1970; MFA, Columbia, 1972; PhD, Indiana, 1981

**Kenyon, William**—1999; Assistant Professor (Theatre Arts), Theatre Arts; BFA, Connecticut, 1991; MFA, Brandeis, 1994

**Mason, Shirley**—1989; Associate Professor (Theatre Arts), Theatre Arts; BA, London, England, 1957; MA 1978, PhD 1987, Colorado

**Miller, Tice L.**—1972; Professor (Theatre Arts), Theatre Arts; AB, Kearney, 1960; MA, Nebraska (Lincoln), 1961; PhD, Illinois, 1968

**O'Connor, Charles**—1993; Professor (Theatre Arts), Theatre Arts; Scene Designer; BA, California State, 1979; MFA, USC, 1984

**Smith, Harris**—1999; Assistant Professor (Theatre Arts), Theatre Arts; BA, Montana State, 1986; MFA, Washington, 1991

**Stauffer, Edward**—1979; Associate Professor (Theatre Arts), Theatre Arts; BS 1969, MFA 1974, Pennsylvania State

**Stauffer, Janice**—1979; Associate Professor (Theatre Arts), Theatre Arts; BA, Pennsylvania State, 1971; MFA, Boston, 1976

## College of Human Resources and Family Sciences

### Family and Consumer Sciences

**Abbott, Douglas**—1983; Professor, Family and Consumer Sciences; BS, Oregon State, 1973; MS, Brigham Young, 1979; PhD, Georgia, 1983

**Allen, John**—1995; Courtesy Faculty, Family and Consumer Sciences; Associate Professor, Agricultural Economics; BS 1978, MS 1983, PhD 1989, Washington State

**Bischoff, Richard**—1998; Assistant Professor, Family and Consumer Sciences; BA 1988, MS 1990, PhD 1993, Purdue

**Cantrell, Randy**—1995; Courtesy Faculty, Family and Consumer Sciences; Professor and Director, Southeast Research and Extension Center; BA 1971, MS 1973, PhD 1976, Cornell

**Churchill, Susan**—1998; Assistant Professor, Family and Consumer Sciences; BS 1991, MS 1993, PhD 1997, Georgia

**Combs, E. Raedene**—1977; Professor\*, Family and Consumer Sciences; BS, Northwest Missouri State, 1959; MS 1974, PhD 1977, Purdue

**Cramer, Sheran**—1970; Associate Professor, Family and Consumer Sciences; BS, South Dakota State, 1963; MS, Iowa State, 1967; PhD, Nebraska (Lincoln), 1980

**Dalla, Rochelle**—1996; Assistant Professor, Family and Consumer Sciences; BA, Colorado, 1991; MS 1993, PhD 1996, Arizona

**Davis, Elizabeth**—1987; Associate Professor, Family and Consumer Sciences; BA, Baker, 1973; MS 1976, PhD 1981, Missouri

**DeFrain, John**—1975; Professor\*, Family and Consumer Sciences; BS 1970, MS 1971, Nebraska (Lincoln); PhD, Wisconsin, 1975

**Draper, Patricia**—1998; Courtesy Faculty, Family and Consumer Sciences; Professor, Department of Anthropology; BA 1964, MA 1965, PhD 1972, Harvard

**Edwards, Carolyn**—1997; Professor, Family and Consumer Sciences; BS 1969, EdD 1974, Harvard

**Eversoll, Deanna**—1979; Courtesy Faculty, Family and Consumer Sciences; Assistant Professor and Director, Evening Programs and Lifelong Learning Services; BS 1970, MS 1972, PhD 1976, Nebraska (Lincoln)

**Gonzalez-Kruger, Gloria**—1998; Assistant Professor, Family and Consumer Sciences; BS 1985, MA 1990, PhD 1998, Michigan State

**Johnson, Julie**—1980; Professor, Family and Consumer Sciences; BS 1970, MS 1972, North Dakota State; PhD, Nebraska (Lincoln), 1984

**McBreen, Edna**—1998; Courtesy Faculty, Family and Consumer Sciences; Associate Vice Chancellor, IANR;

**Montgomery, Bette**—1994; Assistant Professor, Family and Consumer Sciences; BS 1983, MS 1990, PhD 1994, Wisconsin 1992

**Poley, Janet**—1995; Courtesy Faculty, Family and Consumer Sciences; Professor and President and CEO of A\*DEC; BS 1966, MS 1971, PhD 1975, Nebraska (Lincoln)

**Prest, Layne**—1997; Courtesy Faculty, Family and Consumer Sciences; Associate Professor, UNMC; BS 1978, MS 1986, PhD 1991, Virginia Polytechnical Institute

**Prochaska-Cue, Kathy**—1976; Associate Professor and Extension Specialist, Family and Consumer Sciences; BS, Kansas State, 1969; MS, Purdue, 1972; PhD, Nebraska (Lincoln), 1988

**Rider, Mary Ellen**—1994; Assistant Professor, Family and Consumer Sciences; BS, Florida State, 1973; MS, Georgia, 1978; PhD, Missouri, 1986

**Rupiper, Michelle**—1994; Lecturer, Family and Consumer Sciences; BA, Northern Iowa, 1984; MA, Nebraska (Omaha), 1990

**Smith, Craig**—1988; Associate Professor, Family and Consumer Sciences; BS, Utah State, 1976; MS, Arizona, 1977; PhD, Brigham Young, 1980

**Stevens, Georgia**—1989; Associate Professor, Family and Consumer Sciences; Extension Specialist; BS 1968, MS 1971, Nebraska (Lincoln); PhD, Maryland, 1979

**Torquati, Julia**—1994; Assistant Professor, Family and Consumer Sciences; Director, Child Development Lab; BA, Marquette, 1987; MS 1993, PhD 1994, Arizona

**Zeece, Pauline**—1984; Professor, Family and Consumer Sciences; BS 1975, MS 1981, PhD 1986, Iowa State

**Zhao, Wen**—1994; Lecturer, Family and Consumer Sciences; BS 1983, MS 1992, Wyoming

### Nutritional Science and Dietetics

**Albrecht, Julie**—1990; Associate Professor and Extension Specialist, Nutritional Science and Dietetics; BS, North Dakota State, 1972; MS 1985, PhD 1989, Minnesota

**Benes, Beverly**—1994; Senior Lecturer, Nutritional Science and Dietetics; BS 1971, MS 1983, PhD 1988, Nebraska (Lincoln)

**Betts, Nancy**—1981; Professor\*, Nutritional Science and Dietetics; BA, Pennsylvania State, 1974; MS 1980, PhD 1981, Ohio State

**Boeckner, Linda**—1987; Associate Professor and Extension Specialist, Nutritional Science and Dietetics; BS, Nebraska (Lincoln), 1975; MS, Case Western Reserve, 1977; PhD, Nebraska (Lincoln), 1982

**Carr, Timothy**—1996; Assistant Professor, Nutritional Science and Dietetics; BS, California Polytechnic State, 1980; MS 1985, PhD 1989, Arizona

**Driskell, Judy**—1989; Professor, Nutritional Science and Dietetics; BS, Southern Mississippi, 1965; MS 1967, PhD 1970, Purdue

**Hamouz, Fayrene**—1990; Associate Professor, Nutritional Science and Dietetics; BS 1968, MS 1982, PhD 1990, Nebraska (Lincoln)

**Koszewski, Wanda**—1996; Extension Assistant Professor Specialist, Nutritional Science and Dietetics; BS, Utah State, 1981; MS, Nebraska (Lincoln), 1984; PhD, Kansas State, 1988

**Lewis, Nancy**—1990; Associate Professor, Nutritional Science and Dietetics; BS, New Mexico State, 1968; MS, Iowa State, 1973; PhD, Nebraska (Lincoln), 1985

**Martin, Darlene**—1990; Associate Professor and Extension Specialist, Nutritional Science and Dietetics; BS, Texas Christian, 1966; MS, Georgia, 1975; PhD, Oklahoma, 1986

**Schnepf, Marilynn**—1990; Chair and Associate Professor, Nutritional Science and Dietetics; BS, Briar Cliff College, 1967; MS 1969, MS 1980, PhD 1984, Nebraska (Lincoln)

**Stanek, Kaye**—1973; Associate Professor, Nutritional Science and Dietetics; BS, Nebraska (Omaha), 1971; MS 1975, PhD 1986, Nebraska (Lincoln)

**Young, Linda**—1995; Lecturer, Nutritional Science and Dietetics; BS 1972, MS 1983, Nebraska (Lincoln)

## Textiles, Clothing, and Design

**Crews, Patricia**—1984; Professor, Textiles, Clothing, and Design; BS, Virginia Tech, 1971; MS, Florida State, 1973; PhD, Kansas State, 1984

**Daly, Catherine**—1994; Assistant Professor, Textiles, Clothing and Design; BS, Western Michigan, 1971; MA, Michigan State, 1975; PhD, Minnesota, 1984

**Kean, Rita C.**—1980; Chair and Professor, Textiles, Clothing, and Design; BS, SUNY (Buffalo), 1971; MS 1975, PhD 1984, Nebraska (Lincoln)

**Laughlin, Joan**, —1974; Professor, Textiles, Clothing, and Design; Associate Dean for Graduate Studies and Research, College of Human Resources and Family Sciences; BS Saint Mary, 1962; MS, Iowa State, 1965; PhD, Pennsylvania State, 1974

**Niemeyer, Shirley**—1985; Professor and Extension Specialist, Textiles, Clothing, and Design; BS, Nebraska (Lincoln), 1968; MS, Iowa State, 1982

**Quevedo, Vincent**—1998; Lecturer, Textiles, Clothing and Design; BS 1987, MS 1990, Southern Illinois

**Rees, Kathleen**—1992; Associate Professor, Textiles, Clothing, and Design; BS, Texas A&I, 1974; MS, Auburn, 1976; PhD, Tennessee, 1993

**Scheyer, Lois**—1995; Assistant Professor, Textiles, Clothing, and Design; BS, Sterling College, 1975; MS 1991, PhD 1994, Kansas State

**Thayer, Carol**, —1995; Professor and Extension Specialist, Textiles, Clothing and Design; BS 1968, MS 1983, Nebraska (Kearney)

**Tondl, Rose Marie**—1984; Associate Professor and Extension Specialist, Textiles, Clothing, and Design; BS, Nebraska (Lincoln), 1959; MS, Minnesota, 1968; PhD, Nebraska (Lincoln), 1989

**Trout, Barbara**—1981; Associate Professor, Textiles, Clothing and Design; BS, Nebraska (Lincoln), 1970; MS, Colorado State, 1978; PhD, Nebraska (Lincoln), 1987

**Weiss, Wendy**—1986; Associate Professor, Textiles, Clothing, and Design; BA, Colorado, 1979; MFA, Kansas, 1983

## College of Journalism and Mass Communications

**Alloway, Richard**—1986; Lecturer (Broadcasting), Journalism; BA, Nebraska (Lincoln), 1977

**Bender, John R.**—1990; Associate Professor (News-Editorial), Journalism; BA, Westminster College (Missouri), 1970; MS, Kansas, 1977; PhD, Missouri, 1991

**Berens, Charlyne**—1996; Assistant Professor (News-Editorial), Journalism; BSEd, Concordia, 1967; MA, Nebraska (Lincoln), 1995

**Book, Albert**—1963; Professor Emeritus (Advertising), Journalism; BS 1940, MBA 1958, New York

**Botts, Jack**—1966; Professor Emeritus (News-Editorial), Journalism; BA, Nebraska (Lincoln), 1949; MS, Northwestern, 1950

**Bryant, Donald**—1963; Associate Professor (Advertising), Journalism; BA, Nebraska (Lincoln), 1952

**Copple, R. Neale**—1957; Professor, Journalism; Dean Emeritus, College of Journalism; BA, Nebraska (Lincoln), 1947; MS, Northwestern, 1948

**Crumley, Wilma**—1965; Professor Emeritus, Journalism; Associate Dean Emeritus, College of Journalism; BA, Midland, 1949; MA 1963, PhD 1966, Missouri

**Danielson, Jim E.**—1986; Assistant Professor (Broadcasting), Journalism; BSEd, Central Missouri State, 1960; MA 1962, PhD 1978, Nebraska (Lincoln)

**Frazell, Daryl L.**—1990; Associate Professor (News-Editorial) and Head, Journalism; BSJ 1959, MSJ 1960, Northwestern

**Hinrichs, Kelly Jo**—1999; Lecturer (Advertising), Journalism; BJ, Nebraska (Lincoln), 1986

**Hull, Ron**—1988; Professor (Broadcasting), Journalism; BA, Dakota Wesleyan, 1952; MS, Syracuse, 1955; EdD, Nebraska (Lincoln), 1970

**James, Stacy**—1988; Senior Lecturer (Advertising), Journalism; BA 1970, MA 1992, Nebraska (Lincoln)

**Lauerman, Meg**—1996; Assistant Professor (Advertising), Journalism; BA, Nebraska (Lincoln), 1973; MA, Michigan State, 1975

**Lee, Laurie Thomas**—1994; Assistant Professor (Broadcasting), Journalism; BS, Kearney State, 1982; MA, Iowa, 1983; PhD, Michigan State, 1993

**Mayeux, Peter**—1969; Professor (Broadcasting), Journalism; BA, Southwest Louisiana, 1965; MA, Iowa, 1967

**McBride, Jack G.**—1954; Professor Emeritus (Broadcasting), Journalism; AB, Creighton, 1948; MA, Northwestern, 1949

**Miller, V.T.**—1974; Associate Professor Emeritus (Broadcasting), Journalism; BS, Nebraska (Lincoln), 1955; MNS, Arizona State, 1962

**Mitchell, Nancy**—1990; Associate Professor (Advertising) and Head, Journalism; BSJ, Northwestern, 1973; MA, West Texas State, 1989; PhD, Nebraska (Lincoln), 1998

**Neal, James**—1971; Associate Professor Emeritus (News-Editorial), Journalism; BA, Colorado, 1949; MA, South Dakota State, 1970

**Norton, Will**—1990; Dean and Professor (News-Editorial), Journalism; BA, Wheaton, 1963; MA, Indiana, 1971; PhD, Iowa, 1974

**Pagel, Alfred A., Jr.**—1982; Associate Professor Emeritus (News-Editorial), Journalism; BS, Northwestern, 1956; MA, Nebraska (Lincoln), 1986

**Randall, James K.**—1971; Professor (Broadcasting), Journalism; BA 1964, MS 1969, Utah

**Renaud, Jerry R.**—1989; Associate Professor (Broadcasting) and Head, Journalism; BS 1975, MA 1990, Nebraska (Lincoln)

**Rockwell, Lee V.**—1967; Professor Emeritus (Broadcasting), Journalism; BS 1958, MA 1961, Nebraska (Lincoln)

**Russell, Richard H.**—1981; Assistant Professor (Broadcasting), Journalism; BA, Nebraska (Lincoln), 1965; MA, Missouri, 1968

**Schaeffer, Norman**—1997; Lecturer, Journalism; Information Technologies Coordinator; BA, Concordia (Michigan), 1978; MDiv, Concordia Seminary (Missouri), 1982

**Shipley, Linda**—1984; Associate Dean and Professor (Advertising), Journalism; BA, Nebraska (Lincoln), 1967; MA, Missouri, 1969; PhD, Pennsylvania, 1974

**Spann, Thomas**—1975; Associate Professor (Broadcasting), Journalism; BA 1968, MA 1969, Alabama; PhD, Louisiana State, 1973

**Stricklin, Michael**—1983; Professor (News-Editorial), Journalism; BA, Baylor, 1966; MJ, California (Berkeley), 1972; PhD, Iowa, 1977

**Tuck, George**—1970; Professor (News-Editorial), Journalism; BA, Hardin-Simmons, 1965; MA, Missouri, 1970

**Vobejda, William**—1999; Lecturer (Advertising), Journalism; BJ, Nebraska (Lincoln), 1992

**Walklin, Larry**—1967; Professor (Broadcasting), Journalism; BA, Kansas State, 1961; MA, Michigan State, 1962; PhD, Iowa, 1968

## Teachers College

### Curriculum and Instruction

**Aguilar, Teresita**—1991; Associate Professor, Center for Curriculum and Instruction; BA, Mary Hardin-Baylor (Texas), 1977; MS 1981, PhD 1985, North Texas State

**Anderson, Connie A.**—1998; Assistant Professor, Center for Curriculum and Instruction; BS 1973, MED 1975, Northeastern State (Oklahoma); EdD, Oklahoma State, 1988

**Andrews, Larry K.**—1969; Professor, Center for Curriculum and Instruction and English Department; BS 1963, MED 1967, PhD 1969, Missouri

**Arth, Alfred**—1988; Professor, Center for Curriculum and Instruction; BA 1962, MA 1966, Paterson State (New Jersey); EdD, Oklahoma, 1968

**Bonnstetter, Ronald J.**—1984; Associate Professor, Center for Curriculum and Instruction; BS, Mankato State, 1973; MS 1976, PhD 1984, Iowa

**Brooks, David M.**—1973; Professor, Center for Curriculum and Instruction; BA, New York, 1962; MA 1962, PhD 1965, Columbia

**Buck, Gayle**—1998; Assistant Professor, Center for Curriculum and Instruction; BS, Youngstown State, 1989; MA, Ohio State, 1993; PhD, Kent State, 1998

**Fisher, Patience**—1991; Senior Lecturer, Center for Curriculum and Instruction; BA, Colby College (Waterville, Maine), 1961; MAT 1971, PhD 1991, Nebraska (Lincoln)

**Fowler, David**—1987; Associate Professor, Center for Curriculum and Instruction; AB, Harvard, 1962; MA 1988, PhD 1991, Nebraska (Lincoln)

**Franklin, Elizabeth**—1995; Professor and Chair, Center for Curriculum and Instruction; BS, Purdue, 1972; MA 1974, PhD 1984, Indiana

**Garcia, Ricardo**—1996; Professor, Center for Curriculum and Instruction; BA, New Mexico Highlands, 1963; MA 1971, EdD 1973, Denver

**Goodrich, Susan**—1996; Lecturer, Center for Curriculum and Instruction; BA, Hastings, 1974; MEd, Louisville, 1982

**Heaton, Ruth**—1995; Assistant Professor, Center for Curriculum and Instruction; BA, Minnesota, 1979; MEd, Vermont, 1987; PhD, Michigan State, 1994

**Holder, Birdie H.**—1972; Professor, Curriculum and Instructional Education; BSEd, Henderson State (Arkansas), 1962; MEd, North Texas State, 1971; PhD, Nebraska (Lincoln), 1977

**Hostetler, Karl D.**—1987; Associate Professor, Center for Curriculum and Instruction; BA, Dartmouth, 1976; MAT, Northwestern (Illinois), 1977; EdD, Columbia, 1987

**Lopez, William**—1994; Lecturer, Center for Curriculum and Instruction; BA 1971, MA 1989, Colorado State; EdD, Nebraska (Lincoln), 1999

**Milligan Jeffrey**—1998; Assistant Professor, Center for Curriculum and Instruction; BA 1982, MA 1984, Missouri (Columbia); MEd 1993, PhD 1998, Oklahoma

**Moeller, Aleidin**—1990; Greer Professor, Center for Curriculum and Instruction; BA, Creighton, 1969; MA, Wisconsin (Madison), 1971; PhD, Nebraska (Lincoln), 1979

**Nemeth, Edward**—1968; Associate Professor, Center for Curriculum and Instruction; AB, Seton Hall, 1963; MEd, Cornell, 1964; PhD, Syracuse, 1969

**O'Hanlon, James P.**—1966; Professor, Center for Curriculum and Instruction; Dean, Teachers College; BA 1957, EdD 1964, Nebraska (Lincoln); MA, Ohio State, 1958;

**Ollerenshaw, JoAnne**—1998; Assistant Professor, Center for Curriculum and Instruction; BA, SUNY (Brockport), 1978; PhD, Iowa, 1998

**Pataray-Ching, Jann**—1996; Assistant Professor, Center for Curriculum and Instruction; BS 1985, MED 1991, Hawaii (Manao); PhD, Indiana, 1996

**Phillips, Kathy**—1996; Lecturer, Center for Curriculum and Instruction; BS, West Virginia State, 1976; MA, West Virginia, 1977; PhD, Oklahoma, 1995

**Poland, Jeff**—1997; Assistant Professor, Center for Curriculum and Instruction; BA, Columbia, 1969; MA, Southern Connecticut State, 1982; PhD, MIT, 1983

**Rogers, George**—1994; Associate Professor, Center for Curriculum and Instruction; BS, Nebraska (Omaha), 1979; MS, Wayne State, 1985; EdD, Missouri (Columbia), 1989;

**Sawyer, R. McLaran**—1967; Professor, Center for Curriculum and Instruction; BS, Southeast Missouri, 1952; MA, Illinois, 1953; PhD, Missouri, 1966

**Schultz, Andrew**—1998; Lecturer, Center for Curriculum and Instruction; BS 1978, MED 1983, PhD 1985, Nebraska (Lincoln)

**Sievers, Margaret**—1987; Lecturer, Center for Curriculum and Instruction; BA, Kearney State, 1964; ME 1970, MA 1982, PhD 1989, Nebraska (Lincoln)

**Spomer, Marvin**—1974; Associate Professor, Center for Curriculum and Instruction; BFA, Nebraska (Lincoln), 1958; MSc, Kansas, 1964

**Swidler, Stephen**—1995; Assistant Professor, Center for Curriculum and Instruction; BA, St. Norbert, 1985; MSW, Michigan, 1989; PhD, Michigan State, 1995

**Vasa, Dona**—1978; Lecturer, Center for Curriculum and Instruction; BS 1966, MED 1971, Nebraska (Lincoln)

**Walter, L. James**—1977; Associate Professor, Center for Curriculum and Instruction and Associate Dean, Teachers College; BA, Kearney, 1965; MA, Oregon, 1968; EdD, Nebraska (Lincoln), 1973

**Wilson, David E.**—1988; Associate Professor, Center for Curriculum and Instruction; BA 1976, MA 1984, Iowa; MA, Middlebury College, 1986; PhD, Iowa, 1988

**Wunder, Susan**—1989; Assistant Professor, Center for Curriculum and Instruction; BA 1969, MA 1971, Iowa; PhD, Nebraska, 1993

## Educational Administration

**Bryant, Miles T.**—1985; Associate Professor, Educational Administration; BA 1964, MA 1969, Middlebury; EdD, Stanford, 1985

**Slugosh, Larry**—1990; Associate Professor and Chair, Educational Administration; BS 1965, MEd 1970, PhD 1981, Nebraska (Lincoln)

**Eggland, Steven A.**—1971; Professor and Chair, Educational Administration; Head, Marketing Teacher Education; BA 1966, MA 1967, Northern Iowa; PhD, Wisconsin, 1971

**Grady, Marilyn**—1986; Professor, Educational Administration; BA, St. Mary's (Notre Dame), 1971; MS, Eastern Illinois, 1972; PhD, Ohio State, 1980

**Griesen, James V.**—1985; Professor, Educational Administration; Vice Chancellor for Student Affairs; BS 1963, MBA 1968, PhD 1971, Ohio State

**Isernhenke, Jody**—1998; Associate Professor, Educational Administration; BS, James Madison (Virginia), 1970; MA 1979, EdD 1988, Virginia Polytechnic Institute

**LaCost, Barbara**—1990; Associate Professor, Educational Administration; BS, Illinois State, 1964; MEd, Illinois (Champaign), 1981; PhD, Louisiana State, 1988

**Seagren, Alan**—1963; Professor, Educational Administration and Center for Curriculum and Instruction; BS 1953, MED 1958, EdD 1962, Nebraska (Lincoln)

**Stick, Sheldon L.**—1971; Professor, Educational Administration; BA, Northeastern, 1960; MA, Kansas, 1966; PhD, Michigan, 1972

**Torraco, Richard J.**—1994; Assistant Professor, Educational Administration; BS, Massachusetts, 1978; MS, Boston, 1983; PhD, Minnesota, 1994

**Uerling, Donald**—1979; Associate Professor, Educational Administration; BS 1962, MS 1970, Kearney; EdS 1972, JD 1979, PhD 1980, Nebraska (Lincoln)

**Wendel, Frederick C.**—1974; Professor, Educational Administration; BS, Concordia, 1959; MEd 1963, EdD 1969, Nebraska (Lincoln)

## Educational Psychology

**Bandalo, Deborah**—1991; Associate Professor, Educational Psychology; BA, The American University, 1976; MEd 1984, PhD 1991, U of Maryland

**Bruning, Roger H.**—1968; Hodder Professor, Educational Psychology; BA 1963, MA 1965, PhD 1968, Nebraska (Lincoln)

**Caldwell, Leon**—1998; Assistant Professor, Educational Psychology; BA 1991, MEd 1993, Lehigh; PhD, Pennsylvania State, 1998

**Courtney, Sean**—1989; Associate Professor, Educational Psychology; BA 1969, MA 1971, University College, Cork, Ireland; EdD, Northern Illinois, 1984

**Creswell, John**—1978; Professor, Educational Psychology; BA, Muskingum, 1967; MA 1971, PhD 1974, Iowa

**De Ayala, Ralph**—1998; Associate Professor, Educational Psychology; BA, Connecticut, 1979; PhD, Texas, 1987

**Graham, Theresa**—1994; Assistant Professor, Educational Psychology; AB, Chicago, 1987; AM 1990, PhD 1993, Michigan

**Gutkin, Terry**—1975; Professor, Educational Psychology; BS, Brooklyn, 1968; PhD, Texas, 1975

**Hanson, William E.**—1998; Assistant Professor, Educational Psychology; BS, Nebraska Wesleyan, 1991; MA, Minnesota, 1993; PhD, Arizona State, 1997

**Impara, Jim**—1992; Associate Professor, Educational Psychology; BS 1964, MS 1966, PhD 1972, Florida State

**Keller, Harold**—1997; Professor Educational Psychology and Director, Teachers College Institute; BA, DePauw, 1964; MS 1967, PhD 1968, Florida State

**Kiewra, Kenneth A.**—1988; Professor, Educational Psychology; BA, State University at Oneonta (New York), 1977; PhD, Florida State, 1982

**Mickelson, William**—1998; Assistant Professor, Educational Psychology; BA, St. Olaf, 1983; MS, Michigan State, 1985; PhD, Wisconsin (Madison), 1995

**Moshman, David**—1977; Professor, Educational Psychology; BA, Lehigh, 1971; MS 1975, PhD 1977, Rutgers

**Palmer Wilson, Caryll**—1999; Lecturer, Educational Psychology; BA, Midland Lutheran, 1991; MA 1993, PhD 1998, Nebraska (Lincoln)

**Plake, Barbara**—1977; Meierhenry Distinguished Professor, Educational Psychology; Director, Burros Institute of Mental Measurements; BA, Colorado, 1968; MA 1972, PhD 1976, Iowa

**Santmire, Toni**—1968; Associate Professor and Acting Chair, Educational Psychology; BS 1960, MEd 1968, EdD 1970, Rochester

**Schraw, Gregg**—1990; Associate Professor, Educational Psychology; BA, Illinois, 1976; MS 1987, PhD 1990, Utah

**Sheridan, Susan M.**—1998; Professor, Educational Psychology; BS 1982, MS 1984, Western Illinois; PhD, Wisconsin (Madison), 1989

**Sodowsky, Gargi Roysircar**—1988; Associate Professor, Educational Psychology; BA, Madras (India), 1968; MA, Jadavpur (India), 1970; MEd, Sul Ross State (Texas), 1983; PhD, Texas Tech, 1988

**Sparks, Barbara**—1996; Assistant Professor, Educational Psychology; BS, Wisconsin (Milwaukee), 1977; MS, Colorado State, 1988; PhD, Wisconsin (Milwaukee), 1995

**Swearer, Susan**—1997; Assistant Professor, Educational Psychology; BA, Swarthmore, 1987; MS, Penn State, 1989; MA 1993, PhD 1997, Texas (Austin)

## Health and Human Performance

**Ansorge, Charles J.**—1972; Professor, Health and Human Performance; BS, Valparaiso, 1962; MA 1967, PhD 1971, Iowa

**Callahan, Jan**—1969; Assistant Professor, Health and Human Performance; BA, Nebraska Wesleyan, 1966; MPE, Nebraska (Lincoln), 1969

**Doutis, Panayiotis**—1996; Assistant Professor, Health and Human Performance; BPE, Athens, 1986; MA, Sosuth Carolina, 1990; PhD, Ohio State, 1997

**Evans, Sharon A.**—1988; Associate Professor, Health and Human Performance; BS, Scranton, 1980; MA, Connecticut, 1982; PhD, Michigan State, 1988

**Housh, Terry**—1986; Associate Professor, Health and Human Performance; BS, Doane, 1977; MPE 1979, PhD 1984, Nebraska (Lincoln)

**Howard, H. J.**—1976; Assistant Professor, Health and Human Performance; Assistant Gymnastics Coach, Athletic Department; BS 1965, MEd 1967, Nebraska (Lincoln)

**Johnson, Glen O.**—1971; Professor, Health and Human Performance; BS 1960, MS 1964, Winona State; PhD, Iowa, 1972

**Martin, Gary**—1970; Associate Professor, Health and Human Performance; BS, Iowa, 1966; MA 1969, PhD 1970, South Dakota

**Murphy, William D.**—1964; Associate Professor and Chair, Health and Human Performance; BA, Chadron, 1957; MPE, Nebraska (Lincoln), 1964; REd, Indiana, 1975

**Newman, Ian M.**—1970; Meierhenry Professor, Health and Human Performance; BS 1963, MS 1964, George Williams; PhD, Illinois, 1968

**Petrakis, Elizabeth**—1967; Associate Professor, Health and Human Performance; BS, Wisconsin-La Crosse, 1959; MS, Smith, 1966; EdD, North Carolina, 1978

**Rudy, Jeffrey P.**—1998; Lecturer, Health and Human Performance; BS 1987, MS 1992, Pittsburgh; PhD, Kansas State, 1997

**Scheer, John**—1970; Associate Professor, Health and Human Performance; BS 1968, MEd 1969, PhD 1974, Nebraska (Lincoln)

**Schmidt, Richard**—1971; Associate Professor, Health and Human Performance; BS 1969, MEd 1971, PhD 1988, Nebraska (Lincoln)

**Sime, Wesley E.**—1977; Professor, Health and Human Performance; BS 1965, MS 1967, George Williams; PhD, MPH, Pittsburgh, 1975; PhD, Nebraska (Lincoln), 1991

**Tuning, William A.**—1965; Assistant Professor, Health and Human Performance; BS 1965, MEd 1967, Nebraska (Lincoln)

**Wandzilak, Thomas**—1978; Associate Professor, Health and Human Performance; Director Field Experiences, Certification Officer, Student Services Center; BA 1971, MS 1974, Queens; PhD, Ohio State, 1977

**Weissinger, Ellen**—1986; Professor, Health and Human Performance; BS, Nebraska (Lincoln), 1980; MA, Iowa, 1982; PhD, Maryland, 1985

## Special Education and Communication Disorders

**Allinder, Rose**—1990; Associate Professor, Special Education and Communication Disorders; BSE 1976, MSE 1979, Central Arkansas; PhD, Vanderbilt, 1990

**Berthal, John E.**—1984; Professor and Chair, Special Education and Communication Disorders; BA, Wayne State, 1962; MA, Kansas, 1964; PhD, Wisconsin, 1971

**Beukelman, David R.**—1985; Barkley Distinguished Professor, Special Education and Communication Disorders; BA, Western Michigan, 1965; MS 1968, PhD 1971, Wisconsin

**Boney, Stephen J.**—1986; Assistant Professor, Special Education and Communication Disorders; BA 1972, MA 1974, Kent State; PhD, Vanderbilt, 1986

**Carrell, Thomas**—1994; Associate Professor, Special Education and Communication Disorders; BA, California (Berkeley), 1976; PhD, Indiana, 1984

**Cress, Cynthia**—1995; Assistant Professor, Special Education and Communication Disorders; BA, Michigan, 1982; MS, Manchester (England), 1984; MA 1990, PhD 1993, Wisconsin (Madison)

**Davis, Alicia**—1997; Lecturer, Special Education and Communication Disorders; BA, Northern Colorado, 1981; MS, Colorado State, 1983

**Decker, T. Newell**—1977; Professor, Special Education and Communication Disorders; Coordinator of Graduate Programs in Education; BA, Washington, 1966; MEd, East Washington State, 1969; PhD, Washington, 1975

**Eccarius, Malinda**—1996; Lecturer, Special Education and Communication Disorders; BA, Iowa, 1971; MS, Nebraska (Lincoln), 1983

**Epstein, Michael H.**—1998; Barkley Distinguished Professor, Special Education and Communication Disorders; BA 1969, MEd 1971, American University; EdD, Virginia, 1975

**Erickson, Joan**—1989; Associate Professor, Special Education and Communication Disorders; BS 1975, MEd 1979, PhD 1987, Nebraska (Lincoln)

**Farrand, Diane**—1998; Lecturer, Special Education and Communication Disorders; BA 1973, MS 1978, Nebraska (Kearney)

**Healey, E. Charles**—1977; Professor, Special Education and Communication Disorders; BA 1971, MA 1973, Kentucky; PhD, Purdue, 1977

**Hux, Karen**—1990; Associate Professor, Special Education and Communication Disorders; BA 1981, MA 1983, Michigan State; PhD, Northwestern (Illinois), 1989

**Linderman, Karen**—1994; Instructor, Special Education and Communication Disorders; BS 1991, MS 1993, Nebraska (Lincoln)

**Maag, John**—1989; Associate 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, Oregon, 1985

**Meers, Gary**—1974; Professor, Special Education and Communication Disorders; Head, Special Vocational Needs; BS, NW Missouri, 1968; MS 1970, EdD 1972, Missouri (Columbia)

**Menefee, Kevin L.**—1991; 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)

**Peterson, Reece L.**—1978; Associate Professor, Special Education and Communication Disorders; BA, Chicago, 1970; MAT, Brown, 1971; PhD, Minnesota, 1980

**Ramsay, Claire**—1997; Assistant Professor, Special Education and Communication Disorders; BA, Washington, 1972; MA, Gallaudet, 1984; PhD, California (Berkeley), 1993

**Reid, Robert**—1991; Associate Professor, Special Education and Communication Disorders; EdD 1972, MEd 1975, Missouri (Columbia); PhD, Maryland (College Park), 1991

**Sanger, Dixie D.**—1978; Associate Professor, Special Education and Communication Disorders; BA 1967, PhD 1981, Nebraska (Lincoln); MA, Long Beach State, 1970;

**Scheffler, Marilyn Olds**—1984; Lecturer, Special Education and Communication Disorders; Clinic Coordinator; BA, Nebraska (Lincoln), 1969; MS 1975, EdS 1976, Kearney State; EdD, Nebraska (Lincoln), 1983

**Siegel, Elin**—1993; Assistant Professor, Special Education and Communication Disorders; BA 1974, MS 1978, California State (Fullerton); PhD, Kansas, 1986

**Plattstoesser, Deanne**—1999; Lecturer, Special Education and Communication Disorders; BS 1981, MS 1982, Nebraska (Kearney)

**Steckelberg, Allen L.**—1998; Assistant Professor, Special Education and Communication Disorders; BS 1974, MA 1978, PhD 1992, Nebraska (Lincoln)

**Vasa, Stanley F.**—1974; Professor, Special Education and Communication Disorders; BS, Chadron, 1960; MA, Colorado State, 1964; EdD, Nebraska (Lincoln), 1971

**Weiss, Amy**—1997; Lecturer, Special Education and Communication Disorders; BS 1990, MS 1992, Nebraska (Lincoln)

## Omaha Programs

### Aviation

**Acheson, Densel K.**—1990; Assistant Professor, Aviation Institute; BS, Purdue, 1961; MPS, Auburn, 1973

**Bowen, Brent**—1992; Director and Professor, Aviation Institute; BS, Oklahoma State, 1983; MBA, Oklahoma City, 1988; EdD, Oklahoma State, 1990

**Ferguson, Michael D.**—1999; NASA Fellow, Aviation Institute; BA, Bowling Green State, 1999

**Larson, Michael K.**—2000; Assistant Professor, Aviation Institute; BE, Nebraska Wesleyan, 1967; MS 1993, PhD 2000, Oklahoma State

**Schaaf, Michaela**—2000; Senior Research Associate, Aviation Institute; BGS 1995, MS 1996, Nebraska (Omaha)

**Terry, Scott E.**—2000; Assistant Professor, Aviation Institute; BA, Puget Sound, 1986; MA 1989, PhD 1993, Michigan

### Criminal Justice

**Batton, Candace**—1999; Assistant Professor, Criminal Justice; BA, Nebraska (Lincoln), 1991; MA, Kansas State, 1993; PhD, Vanderbilt, 1999

**Esbensen, Finn-Aage**—1992; Professor, Criminal Justice; BA 1973, MA 1976, Tufts (Medford); PhD, Colorado, 1982

**Eskridge, Chris**—1978; Professor, Criminal Justice; BS, Brigham Young, 1975; MA 1976, PhD 1978, Ohio State

**Horney, Julie**—1974; Professor, Criminal Justice; BA, North Carolina, 1969; PhD, California, 1973

**Jacobs, Susan**—1990; Associate Professor, Criminal Justice; BA, Phillips, 1967; PhD 1971, JD 1976, Nebraska (Lincoln)

**Miller, Michelle Hughes**—1996; Assistant Professor, Criminal Justice; BS, Nebraska Wesleyan, 1986; MA 1990, PhD 1997, Nebraska (Lincoln)

**Ogle, Robbin S.**—1995; Assistant Professor, Criminal Justice; BS, Central Missouri State, 1990; MS, Missouri, 1992; PhD, Penn State, 1995

**Turner, K. B.**—1989; Assistant Professor, Criminal Justice; BS, Jackson State, 1983; MS, Nebraska (Omaha), 1988; PhD, Nebraska (Lincoln), 1996

### ROTC

### Aerospace Studies

**MacElhaney, William L.**—2000; Professor and Chair, Aerospace Studies; Colonel, US Air Force; BS, USAFA, 1974; MS, AFIT, 1982; MS, National Defense University, 1994

**Lundborg, Tammy K.**—1998; Assistant Professor, Aerospace Studies; Major, US Air Force; BA, Northern Colorado, 1987; MA, Oklahoma, 1996

**Springer, Scott D.**—1998; Assistant Professor, Aerospace Studies; Captain, US Air Force; BS, Nebraska (Lincoln), 1993; MEME, Idaho, 1999

**Turnipseed, Michael E.**—1999; Assistant Professor, Aerospace Studies; Major, US Air Force; BS, Kansas, 1987; MBA, Webster, 1993

### Military Science

**Danner, D. Scott**—1997; Assistant Professor, Military Science; Captain, US Army; BS, E. Tennessee State, 1988

**Dibella, Gregory J.**—1993; Assistant Professor, Military Science; Major, US Army; BS, Western Illinois, 1982

**Harlan, Michael J.**—1997; Assistant Professor, Military Science; Captain, US Army; BFA, Montana, 1989

**Sargent, Steven E.**—1996; Assistant Professor, Military Science; Major, US Army; BA, New York, 1989

**Tracey, Richard S.**—1998; Professor and Chair, Military Science; LTC, US Army; BS, Nason (Maine), 1979; MA, Massachusetts, 1994

### Naval Science

**Donahue, Patrick E.**—1999; Professor and Chair, Naval Science; Colonel, USMC; BS, Bemidji, 1971; MA, US Army Command and General Staff College, 1992

**Hohl, Erich M.**—2000; Assistant Professor, Naval Science; LT, US Navy; BS, Nebraska (Lincoln), 1995

**Kennedy, Craig M.**—2000; Associate Professor, Naval Science; CDR, US Navy; BS, California, 1979; MS, Naval Postgraduate School, 1986

**Quinn, Kerry J.**—1998; Assistant Professor, Naval Science; CAPT, US Marine Corps; BS, Norwich, 1991

**Radford, Kenneth N.**—1998; Assistant Professor, Naval Science; LT, US Navy; BS, North Carolina State, 1993

**Sikkink, Wade A.**—1999; Assistant Professor, Naval Science; LT, US Navy; BS, Nebraska (Lincoln), 1995



## Donald Lee

"An important part of undergraduate teaching for me is realizing that all of my students do not have the same natural motivations that I do. I am motivated by the study and teaching of genetics and molecular genetic techniques, and many of my students are taking genetics because it is a requirement. I need to motivate my students to see how genetics technology connects to their world, no matter what they plan to do, because issues of genetics are exploding in our society today as we acquire more and more understanding. That's what drives how I approach the subject and what I am going to teach about it.

"Teaching at a university the size and scope of Nebraska provides me with the incredible opportunity of being surrounded by research faculty and other faculty teaching subjects closely related to mine. I am part of a diverse faculty, and each of us is appreciated for our strengths and contributions. It is amazing how much insight I get by talking directly with research geneticists and having an inside track on research being done and the learning that can come from it. I have the opportunity of taking that information directly into the classroom."

*Donald Lee is an associate professor of agronomy in the College of Agricultural Sciences and Natural Resources.*



# 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 resolve 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 commu-

nity. 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.
2. 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

1. 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.

2. 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.
3. 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

1. 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 file. 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*.
2. 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*.

3. 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 procedure. 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:

1. Student name
2. Dates of registered attendance
3. Nature of any degrees granted and dates conferred
4. Major
5. College
6. Classification
7. Home address
8. Campus address
9. Phone
10. Marital status

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**

### **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 criticism 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., Dexedrine®, 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.

## 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 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

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 any 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.
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 advisor 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 advisor at the hearing before the Judicial Board at the expense of the student or organization, and that such counsel or advisor 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 determine 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 witness, or object to testimony of 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 repetitive 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 Faculty 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 Faculty Senate and the ASUN Senate shall at the request of the Chancellor submit additional lists of alternate members to the Chancellor. Should the Faculty

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 re-appointed 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 consid-

eration. 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 re-hearing 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 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 shall not be altered during the time of any appeal proceedings unless the Chancellor or the Vice Chancellor for Student Affairs determine 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 Appeal 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 Faculty 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, April 1995, and June 1999.*

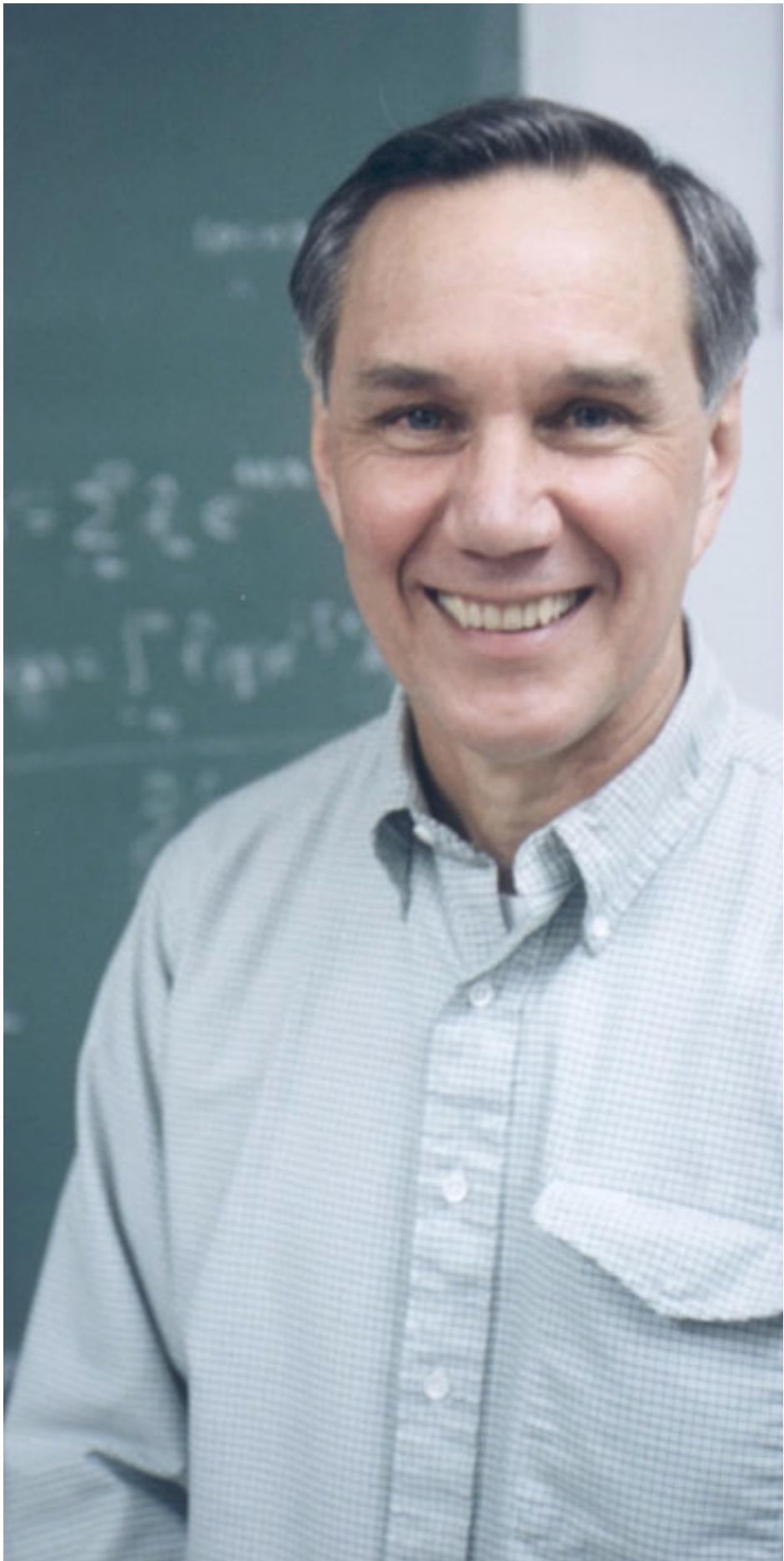
## Gordon Woodward

"I did research at the University for over ten years, and then made a great discovery: I really liked teaching and working with students.

I enjoy the creativity of experimenting with teaching mathematics and focusing on how I can improve my teaching, as opposed to how I can make students learn more. I am continually trying to discover how to get the material across and what I can do to convince students that the material is important. Basic mathematics skills must be kept alive by practicing them, and advanced skills can be developed by building on those basics. Also, my earlier research allows me to bring "hot topic" information on the Internet into the classroom and package it in an understandable way.

"Advising math majors is also one of my responsibilities. I'm the one who knows the rules, stays up on changes in requirements, and challenges our students with new job opportunities for graduates. The explosion of data for business, corporations, and government has created a real need for mathematicians who can analyze the data and help develop software to analyze data — this computer age is great."

*Gordon Woodward is an associate professor of mathematics in the College of Arts and Sciences.*



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