



2014-2015 UNDERGRADUATE BULLETIN



Academic Calendar

These dates are subject to change.

SUMMER TERM 2014

Memorial Day: May 26
First day of classes: May 27
End of 1st 5-weeks: June 27
Start of 2nd 5-weeks: June 30
Independence Day Holiday: July 4
Summer session ends: August 1

FALL TERM 2014

First day of classes: August 25
Labor Day: September 1
Thanksgiving Break: November 24-28
Last day of classes: December 8
Reading Days: December 9-10
Finals: December 11-12, 15-18
Commencement: December 20

SPRING TERM 2015

First day of classes: January 12
Martin Luther King Day: January 19
Spring Break: March 16-20
Last day of classes: April 27
Reading Days: April 28-29
Finals: April 30, May 1, 4-7
Commencement: May 9

SUMMER TERM 2015

Memorial Day: May 25
First day of classes: May 26
End of 1st 5-weeks: June 26
Start of 2nd 5-weeks: June 29
Independence Day Holiday: July 4
Summer session ends: July 31

FALL TERM 2015

First day of classes: August 24
Labor Day: September 7
Thanksgiving Break: November 23-27
Last day of classes: December 7
Reading Days: December 8-9
Finals: December 10-11, 14-17
Commencement: December 29

SPRING TERM 2016

First day of classes: January 11
Martin Luther King Day: January 18
Spring Break: March 14-18
Last day of classes: April 25
Reading Days: April 26-27
Finals: April 28-29, May 2-5
Commencement: May 7



THE UNIVERSITY *of*
TULSA

Undergraduate Bulletin 2014-2015

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The University of Tulsa is committed to the principle of equal opportunity in education and employment. The University does not discriminate on the basis of personal status or group characteristic including, but not limited to individuals on the basis of race, color, religion, national or ethnic origin, age, gender, disability, veteran status, sexual orientation, gender identity or expression, genetic information, ancestry, or marital status in the administration of its educational policies, admissions policies, employment policies, scholarship and loan programs, athletic, and other University administered programs.

Inquiries about compliance should be addressed to the University's Associate Vice President of Human Resources and Risk Management, Fisher Hall East Room 103, and 800 S. Tucker Drive, Tulsa, OK 74104.

Notice

The University of Tulsa *Undergraduate Bulletin* is published every two years as a guide to curricula, course descriptions, costs, University policies, and other information. In keeping with established procedures, the University may change programs of study, academic requirements, faculty, curricula, course descriptions, costs, policies, the academic calendar, or other information without prior notice. The University reserves the right to correct factual errors whenever they are discovered. It is the student's responsibility to stay abreast of current regulations, curricula, and the status of the specific program being pursued. Students are responsible for adherence to all University policies, regulations, and program requirements, including student conduct codes that apply to academic and extra-curricular activities. All University *Bulletins* are available on the University's website www.utulsa.edu.

Graduate programs are offered by all colleges and are described in the current *Graduate Bulletin*. Information concerning The University of Tulsa College of Law may be found on the College of Law website at www.utulsa.edu/law.

The Mission of The University of Tulsa



The University of Tulsa is a private, independent, doctoral-degree-granting institution whose mission reflects these core values:

excellence in scholarship,
dedication to free inquiry,
integrity of character, and
commitment to humanity.

The University achieves its mission by educating men and women of diverse backgrounds and cultures to

- become literate in the sciences, humanities, and arts;
- think critically, and write and speak clearly;
- succeed in their professions and careers;
- behave ethically in all aspects of their lives;
- welcome the responsibility of citizenship, service, and leadership in a changing world; and
- acquire the skills and appetite for lifelong learning.

Accreditation

The University of Tulsa is a fully accredited national doctoral institution and is on the approved lists of the Higher Learning Commission and the Oklahoma State Regents for Higher Education. Some of the University's colleges and professional schools are accredited by their own professional agencies as well.

All programs for the preparation of teachers are recognized by the Oklahoma Commission for Educational Quality and Accountability and nationally accredited by the Teacher Education Accreditation Council. The School of Music of The University of Tulsa is an accredited institutional member of the National Association of Schools of Music (NASM). The following degrees are listed by NASM: Bachelor of Arts in Music, Bachelor of Music Education, Bachelor of Music in Performance, and Bachelor of Music in Composition. The deaf education program is accredited by the Council on Education of the Deaf, and the M.S. degree program in speech-language pathology is accredited by the Council on Academic Accreditation in Audiology and Speech Language Pathology (CAA) of the American Speech-Language-Hearing Association (ASHA). The Ph.D. program in clinical psychology is accredited by the American Psychological Association.

The Collins College of Business is accredited at both the graduate and undergraduate levels by AACSB International - The Association to Advance Collegiate Schools of Business. The nursing program is approved by the Oklahoma Board of Nursing. The baccalaureate nursing program is accredited by the Accreditation Commission for Education in Nursing, 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326. The athletic training program is accredited by the Commission on Accreditation of Athletic Training Education.

The College of Engineering and Natural Sciences is an institutional member of the American Society for Engineering Education. The Bachelor of Science degree programs in chemical engineering, electrical engineering, engineering physics, mechanical engineering, and petroleum engineering are accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. The Bachelor of Science degree in computer science is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>. The Bachelor of Science degree in chemistry is approved by the American Chemical Society.

The University of Tulsa College of Law is fully accredited by the American Bar Association (ABA) Council Section of Legal Education and Admissions to the Bar (address: 321 N. Clark St., 21st Floor, Chicago, IL 60654 / phone: 312.988.6738 / email: legaled@americanbar.org / website:

http://www.americanbar.org/groups/legal_education/contact_us.html) since 1953.

University Assessment

The University has comprehensive programs for assessment of student learning at the institutional, program and course levels. At the institutional level, assessment is conducted through several programs:

- Mission Statement Assessment Project (MSAP) relies on scores obtained from a standardized exam that is administered to students at the beginning and end of their undergraduate tenure.
- Tulsa University Learning Assessment Project (TULAP) uses faculty-developed, evaluative instruments (rubrics) to analyze student work that is produced in the general curriculum courses. National Survey on Student Engagement (NSSE) and Faculty Survey on Student Engagement (FSSE) obtain experiential and perception information from freshmen and seniors and the faculty who teach both groups.
- End-of-semester, online student evaluations provide faculty with perceptions about students' experiences in their courses.

These initiatives provide a systematic way of determining students' ability to demonstrate the skills, knowledge, and competencies that are included in the TU Mission Statement.

Both TULAP and MSAP gather assessment data on several student learning outcomes included in the University's mission statement; consequently, it is important that every undergraduate student has the possibility of participating in these programs. Student confidentiality is ensured by presenting test results in aggregate and by removing all identifiers from course-embedded artifacts prior to review. Assessment is also done at the college and academic department levels measuring the increasingly focused missions of these smaller units. The goal is to ensure that at every level the mission of the University is achieved, and to find ways to continually improve the curriculum, teaching and student achievement.

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University Administration

Board of Trustees

The University of Tulsa's Board of Trustees consists of active members and emeritus members. Members hold office for a term of two or three years and election of approximately one-third of the total membership is held each year. With certain exceptions, no trustee except the President may serve more than two consecutive terms, but a trustee who has served two consecutive terms (a total of 6 consecutive years) is eligible for reelection after one year off. The President of the Tulsa Alumni Board and President of the National Alumni Board serve during the term of that office. Both active and emeritus trustees are elected by a majority vote of the Board of Trustees, which determines the terms, conditions, and qualifications of membership.

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About The University of Tulsa

As a comprehensive, doctoral-degree-granting institution with a covenant relationship to the Presbyterian Church (USA), The University of Tulsa provides undergraduate, graduate, and professional education of the highest quality in the arts, humanities, sciences, business, education, engineering, law, nursing, and applied health sciences, and participates in NCAA Division I. Its current undergraduate enrollment is about 3,400, with about 1,100 students in its graduate programs and law. The University operates on a semester basis.

The University campus lies two miles east of downtown Tulsa, a handsome, vigorous, southwestern city in a metropolitan area of just under a million people, set in northeastern Oklahoma's "Green Country." From the beginning, Tulsa's founders — who developed a thriving economy based on oil and gas, aerospace technology, telecommunications, and health care — invested in nationally noted museums, outstanding performing arts groups, and a system of parks and recreational facilities for citizens of all ages. The city's remarkable cultural, technological, and economic resources nourish the University's mission and enrich its life, just as the University, in turn, enriches the city.

The University's mission is further nurtured and supported by:

- Exceptional faculty who draw students into the pursuit of knowledge and who include in their numbers the 1998-99 Carnegie Foundation Professor of the Year for all U.S. doctoral and research universities, a national Carnegie Foundation Pew Scholar, a Carnegie Foundation Professor of the Year for Oklahoma, and four Fellows of the Institute for Advanced Study;
- A humanities-based general curriculum that stimulates scientific, social, and artistic inquiry, while stressing competence in oral and written communication;
- Graduate, professional, and research programs that foster advanced theoretical development, promote professional preparation, enhance the quality of the faculty, and extend the University's international reach;
- Substantial library resources and information technology that support research and classroom learning;
- A world-class museum that houses notable American western art, Native American art, ethnographic holdings on indigenous peoples of the Americas, and documents on the settlement of the New World;
- A residential campus that fosters a sense of community and integrates curricular and extracurricular life;
- An urban arts center in downtown Tulsa's historic Brady District; and
- Abundant opportunities for students to undertake community service, internships, and study abroad and to participate in substantive research, often as early as the freshman year.

History of The University of Tulsa

The University of Tulsa — a private, non-sectarian institution that has a mutually articulated covenant with the Presbyterian Church (USA) — has its roots in the Presbyterian School for Indian Girls, a small boarding school founded in 1882 in Muskogee, Indian Territory. In 1894, at the request of the Synod of Indian Territory, the Board of Home Missions of the Presbyterian Church elevated the academy's status and chartered it as Henry Kendall College, a coeducational institution whose name honored the first General Secretary of the Home Missions Board. The first classes in the new college were held on September 12, 1894.

In the years following, financial difficulties prompted school officials to ask the Synod of Indian Territory to assume control, sell the school's land, and seek a new location. Successfully courted by the business and professional community of Tulsa which was booming after the discovery of oil at Glenpool, Henry Kendall College moved to Tulsa in 1907, the year of Oklahoma's statehood.

Several years later, a new college, to be named after oilman Robert M. McFarlin, was proposed for the city. Aware that Tulsa was not large enough to support two competing colleges, the Henry Kendall College trustees proposed that the contemplated McFarlin College and Kendall College affiliate under the common name "The University of Tulsa." A charter for the University was approved on November 9, 1920. In 1926, the articles of incorporation were amended to create its modern structure as an independent school corporation governed by a self-perpetuating Board of Trustees.

In 1928, the School of Petroleum Engineering opened and soon earned international recognition for its curriculum and faculty. The College of Business Administration was established in 1935. In 1943, the downtown law school, previously affiliated only loosely, became part of the University.

Upon his death in 1966, James A. Chapman bequeathed the University \$34 million in endowment. In the 1970s, the Dimensions for a New Decade campaign raised an additional \$43 million. By the beginning of 2006, total endowment funds and funds held in trust exceeded \$800 million.

The University currently comprises the Henry Kendall College of Arts and Sciences, the Collins College of Business (renamed in 2008), the College of Engineering and Natural Sciences, the College of Law, the Graduate School, and the Division of Lifelong Learning. The inauguration of a new College of Health Sciences is planned for 2015.

After the 1970s, the character of the University changed. Although the programs in engineering and geosciences continued to bring the institution international renown, carefully selected graduate programs were added in other fields; the College of Law, the Collins College of Business, and the Henry Kendall College of Arts and Sciences were strengthened; the number of students living on campus significantly increased; and the student body — which currently hails from 44 states, the District of Columbia, and 71 different countries — became increasingly diverse.

In 1984, the University established an innovative humanities-based general course of study called the Tulsa curriculum that emphasized the development of core skills in writing, mathematics, and foreign languages; increased faculty diversity; enhanced its support for excellent teaching and research; defined its academic programs with greater

rigor and clarity; and began recruiting highly qualified students nationwide. In addition, ten endowed chairs for faculty were established. (To date, 53 chairs, professorships and deanships have been created.) The library was strengthened by accelerated development of the rare book and manuscript collections, which regularly draw international scholars and archival materials to the University, expanding the University's reputation as the home of one of the leading special collections libraries in the country and bringing international acclaim. In 1988, the University was awarded the Beta of Oklahoma chapter of Phi Beta Kappa, recognizing the University's excellence in and commitment to liberal arts education for all students. These trends have continued into the present, advancing the University's reputation for excellence.

As the University continued into its second century, it completed its most ambitious capital campaign in its history, the New Century Campaign. Construction of the Donald W. Reynolds Center, a \$28 million, 138,000-square foot facility with an 8,000-seat arena, was completed in 1999 with major funding in the form of a \$14.75 million grant from the Reynolds Foundation. Several new buildings located west of Delaware Avenue constitute the Donna J. Hardesty Sports Complex. Completed in 2001, the Michael D. Case Tennis Center includes a 64,000-square-foot indoor facility with six courts. In addition, there are 12 outdoor courts with stadium seating around the four center courts. For student recreation, the Fulton and Susie Collins Fitness Center, a 67,000 square foot multipurpose recreation center, opened in the fall of 2002. The Hardesty complex also includes the Hurricane Soccer/Track Facility and a new softball park. Construction of the \$10.5 million Mabee Legal Information Center for the College of Law was completed in January 2000. Another addition to the College of Law is the 4,000-square-foot Boesche Legal Clinic. These facilities are heavily used by both the University and larger communities.

During the past decade, the University has made a commitment to developing a vibrant residential campus environment, which includes the addition of more than 800 market-quality apartments since 2001. The University constructed the University Square and Norman Village apartments in the northwest section of campus, Brown Village, Lorton Village, and Mayo Village along the southern and eastern sections of campus, and the West Park apartment building at East 4th Place and South Lewis Avenue.

The campus has continued its dramatic physical transformation during the past few years as TU completed a number of major construction projects including Bayless Plaza, home of TU's iconic Kendall Bell; Collins Hall, home to the admission, financial aid, alumni relations, and central administration offices; the Case Athletic Complex, which houses the Golden Hurricane football offices and provides academic study resources for all TU student athletes; a complete renovation of H.A. Chapman Stadium to enhance the football game day experience; and a new south entrance along Eleventh Street that provides a grand front door to the University including Tucker Drive, Chapman Commons, and the Genave King Rogers Fountain. A 12,000-square foot, two-story addition to McFarlin Library was completed in 2009 and houses its computer labs and student technology resources. This project also included the restoration of the library's historic reading rooms and the addition of new amenities including the Cort and Martha Dietler Café. The Pat Case Dining Center and refurbished student residences in Fisher Hall, both completed during the summer of 2010, have dramatically improved the appearance and functionality of these spaces in Fisher Hall.

The Roxana Rózsa and Robert Eugene Lorton Performance Center, a 77,000-square-foot facility showcasing TU's fine and performing arts, was completed in 2011. The centerpiece of the Lorton Performance Center is the Gussman Concert Hall which includes a full performance stage. The facility is the new home of the School of Music and the Department of Film Studies. In October, 2010, ground was broken on a new engineering complex surrounding a new academic quadrangle called Samson Plaza. The J. Newton Rayzor Hall, home to electrical and computer engineering and computer science, opened in November 2011. Stephenson Hall, which houses mechanical engineering and the MacDougal School of Petroleum Engineering, opened in the fall of 2012.

On May 10, 2008, The University of Tulsa renamed the College of Business Administration as the Collins College of Business to honor the vision and leadership of Tulsa businessman Fulton Collins, who chaired the TU Board of Trustees from 1997 to 2008. The business building was renamed Helmerich Hall in 2008 in honor of Walt Helmerich, Chairman of the Board and Director of Helmerich & Payne, Inc.

In October, 2007, the City of Tulsa and TU agreed to an historic public-private partnership under which TU manages operations at Tulsa's Gilcrease Museum, home to the world's largest, most comprehensive collection of art and artifacts of the American West. The partnership, which formally began on July 1, 2008, has resulted in numerous strategic opportunities for the museum, including streamlining its management structure, advancing and preserving the collection, and providing unparalleled opportunities for academic research of the museum's extensive holdings. The Gilcrease partnership allows TU to leverage its nationally recognized academic resources in western American history, art history, anthropology, and archaeology to create a better understanding of the museum collection. The Helmerich Center for American Research, opening in 2014, enhances scholarly opportunities at the Gilcrease Museum.

The University of Tulsa is engaged in a partnership with the University of Oklahoma to participate in the Tulsa School of Community Medicine, with the first class planned for the fall of 2015. The School will address the needs of the Tulsa urban and Oklahoma rural communities that are underserved in medical and health care facilities by training doctors who are committed to the public health issues of these populations.

In addition to supporting the traditional liberal arts, the University continues to maintain and strengthen its academic standards by internationalizing its programs, developing substantive undergraduate research opportunities, and seeking distinction in critical fields, including environmental studies and research, computer security, nanotechnology, bioinformatics, Native American and indigenous peoples law, risk management, and taxation, the better to equip its students for life in a rapidly changing world. A primary focus of the present administration is to elevate the University's regional accolades for excellence to national prominence.

As a mark of this success, since 1995, TU students have been successful with the following national competitions: 59 Goldwater Scholarships, 54 National Science Foundation Graduate Fellowships, 11 Truman Scholarships, 11 Phi Kappa Phi Graduate Fellowships, 9 Department of Defense Fellowships, 17 Fulbright Grants, 9 Morris K. Udall Scholarships, 5 British Marshall Scholarships, and 11 Benjamin A. Gilman Scholarships.

In September 2005, The University of Tulsa was designated a Truman Honor Institution by the Harry S. Truman Scholarship Foundation for producing graduates dedicated to public service.

Seventy-four percent of the freshmen welcomed in the fall of 2013 were in the top 10% of their high school classes. Their mean cumulative high school grade point average was 3.8.

Admission and Registration

The undergraduate admission policy is designed to seek students who demonstrate intellectual promise in a challenging curriculum, and who are committed to the liberal education reflected in the Mission of The University of Tulsa and to upholding the Student Code of Conduct. (Refer to the Mission Statement and the Equal Opportunity Statement in the front of this *Bulletin*, and to the Student Code of Conduct in the *Student Handbook* found online at www.utulsa.edu/student-life/Office-of-Student-Affairs/Student-Handbook.aspx.) The University of Tulsa uses a holistic approach in evaluating candidates for admission based on available information, including academic and extracurricular achievement, school records, and personal qualities. Admissibility is determined by an admission committee under the auspices of the Dean of Admission. Admission to certain degree programs may be limited and have additional academic requirements or a separate program application.

The University has a non-binding Early Decision freshman admission plan with an application deadline of November 1 and notification three weeks later. Applications completed after November 1 will be reviewed under a rolling admission process and applicants will be notified on an ongoing basis starting in mid-December. The priority deadline for admission and scholarship consideration is February 1. The Office of Admission also adheres to the national Candidate's Reply Date, which means that applicants are not required to pay a non-refundable enrollment deposit nor accept an offer of admission or financial aid prior to May 1. Students notified of acceptance after May 1 for the fall semester, or after December 1 for the spring semester, should make their admission deposit within two weeks of notification. The deposit is credited toward first semester tuition and is non-refundable.

As a member of the National Association for College Admission Counseling, The University of Tulsa fully subscribes to the Statement of Principles of Good Practices.

See the residency requirements for undergraduate students on page 37 in the Campus Housing and Dining section of this *Bulletin*.

Degree-Seeking Status

Freshman Application Procedures

Graduating high school seniors or adults who have a high school diploma or GED and have never attended an accredited two- or four-year college should apply for admission as freshmen. High school graduates who have attended only a non-accredited post-secondary institution should follow freshman procedures.

The Office of Admission reserves the right to verify the authenticity of any documents or statements provided as part of the application and to request additional materials as needed to render an admission decision.

Application for Admission and Fee. The freshman application form, including an essay, should be signed and submitted to the Office of Admission by the February 1 priority deadline for fall admission. Application may be made either on-line at <https://apply.utulsa.edu> or via a traditional form. The University of Tulsa also accepts and

gives equal consideration to the Common Application in lieu of its own form. The one-time, non-refundable application fee is specified on page 32.

In addition to the undergraduate application for admission, freshman applicants to the Athletic Training program, the Energy Management program, and the School of Music must follow additional procedures for acceptance to these programs. Details are available from the Office of Admission or from the program director.

Transcripts. Early Action applicants may be considered for admission on the basis of official sixth semester high school transcripts; however, seventh semester transcripts may be requested by the admission committee. The final official high school transcripts of enrolling students must be submitted from the school directly to the Office of Admission upon graduation. Non-submission will preclude students from enrollment in subsequent terms.

Candidates for admission who have received a high school equivalency credential based on the Test of General Educational Development (GED) must submit an official report of their GED scores from the testing agency in addition to a final official transcript of any course work completed in high school.

Transcripts of college credit earned concurrently with high school credit are not required for an admission decision, but should be submitted from the credit granting institution directly to the Office of Admission upon completion of the course work.

Recommendation. Freshmen who have graduated within two years prior to the intended term of enrollment must provide a secondary school counselor's evaluation form.

SAT or ACT. Freshman applicants must provide official scores from the SAT Critical Reading and Mathematics exams or the ACT exam. The Office of Admission reserves the right to validate SAT and ACT results reported on the high school transcript by requesting an official score report from the testing agency.

Applicants who are 25 or older are not required to submit SAT or ACT results. The admission committee may request scores from college entrance exams, however, if deemed necessary to evaluate the applicant's qualifications.

Green Card (PRA) Verification Form. Applicants who have a green card (Permanent Resident status) must submit a completed, signed and notarized Verification Form along with a signed and notarized copy of both sides of the green card. The Verification Form may be obtained from the Office of Admission, or online at www.utulsa.edu/admission-and-financial-aid/undergraduate-admission/Applications-and-Forms.aspx.

Interview. A personal interview with an admission counselor is strongly recommended.

Freshman Selection

Freshman admission decisions are based on all available information, including performance in a college preparatory curriculum, scores on college entrance examinations, class rank, personal qualities, achievements, and recommendations. Special talent, leadership, maturity, strength of character, perseverance, and initiative evident through recommendations, extracurricular activities, personal interviews and the application are also considered. Test scores of the middle fifty percent of the freshman class typically fall between the 80th to 95th percentile nationally and the majority of the freshman rank in the top 10% of their class.

The University strongly encourages applicants to undertake a rigorous academic curriculum that includes at least 16 or more units of college preparatory work (a unit is one year of study in a subject). Honors, Advanced Placement, and International Baccalaureate classes are strongly encouraged and are viewed favorably by the admission committee.

High School Course Recommendations

	Henry Kendall College of Arts and Sciences	Collins College of Business	College of Engineering and Natural Sciences
College preparatory English	4	4	4
College preparatory social studies	3-4	3-4	3-4
College preparatory mathematics (Algebra I, II, Geometry, Trigonometry, Calculus)	3-4	4	4-5
College preparatory science with lab	3-4	3-4	4
Same foreign language	2-4	2-4	2
Fine arts and humanities	1-2	1-2	1-2

Computer competency is expected.

Transfer Application Procedures

Students who wish to pursue a degree at The University of Tulsa and who have attended other accredited colleges or universities since graduating from high school must apply as transfer students. This includes students who were previously enrolled at The University of Tulsa and subsequently attended another institution.

The Office of Admission reserves the right to verify the authenticity of any documents or statements provided as part of the application and to request additional materials as needed to render an admission decision.

Students transferring in must complete a minimum of the last 45 hours of their degree plan at The University of Tulsa.

Application for Admission and Fee. The transfer application form, including a personal statement, must be signed and submitted to the Office of Admission the semester before the beginning of the term in which enrollment is sought. Application may be made either on-line at <http://apply.utulsa.edu> or via a traditional form. The University of Tulsa also accepts and gives equal consideration to the Common Application in lieu of its own form. The one-time, non-refundable application fee is specified on page 32.

In addition to the undergraduate application for admission, transfer applicants to the Athletic Training program, the Energy Management program, the School of Art, the School of Music, and the School of Nursing must follow additional procedures for acceptance to these programs. Details are available from the Office of Admission or the program director.

Transcripts. Transfer students must have final official transcripts mailed to the Office of Admission from the high school and each accredited college attended. Hand-carried transcripts will not be accepted as official. Failure to disclose a college previously

attended could result in withdrawal of the application or offer of admission. Applicants who have received a high school equivalency credential based on the Test of General Educational Development (GED) must submit an official report of their GED scores from the testing agency, in addition to an official transcript of any high school work completed. Transfer students who have completed 48 or more semester hours of college credit at the time of their application are exempt from submitting high school transcripts or GED results unless requested by the admission committee.

SAT or ACT. Transfer students must provide official scores from the SAT Critical Reading and Mathematics exams or the ACT exam unless they have completed more than 30 semester hours of college work or are 25 years of age or older. Scores from college entrance exams or additional placement testing may be required, however, if deemed necessary to evaluate the applicant's qualifications. The Office of Admission reserves the right to validate SAT and ACT results reported on the high school transcript by requesting an official score report from the testing agency.

Green Card (PRA) Verification Form. Applicants who have a green card (Permanent Resident status) must submit a completed, signed and notarized Verification Form along with a signed and notarized copy of both sides of their green card. The Verification Form may be obtained from the Office of Admission, or online at www.utulsa.edu/admission-and-financial-aid/undergraduate-admission/Applications-and-Forms.aspx.

Interview. A personal interview with an admission counselor is strongly recommended.

Transfer Selection

Transfer admission decisions are based on the complete academic record of the applicant, including all previous college work and, in some cases, high school transcripts and college entrance exams. Factors such as motivation, maturity, strength of character, perseverance, and accomplishments evident through the application, interview, and other documentation will also be considered.

Transfer applicants must be in good standing at the institution last attended. A 2.75 all-college cumulative grade point average is recommended for consideration for admission.

Applicants who have courses in progress at another institution the semester prior to their expected entry term may be offered admission provisionally, pending receipt of final official transcripts.

Transfer students who show academic promise but whose overall academic records do not fit conventional standards for admission may be considered for admission on probation. Under the terms of probation, credit hours may be limited, and the student will be required to maintain a 2.0 cumulative grade point average during the first semester. Transfer students admitted on probation are referred to the Center for Student Academic Support (CSAS) for services to assist their transition.

Students who have been dismissed or suspended from any college or university may not be considered for admission to The University of Tulsa until one calendar year has elapsed. Transfer students who were dismissed from The University of Tulsa prior to attending another college must petition the dean of their college of enrollment before being considered for readmission. Credits earned at another college or university during the dismissal period may not be applied toward a degree from The University of Tulsa.

unless approved by the readmitting dean.

Previous TU students who have not attended another institution since their last term of enrollment at The University of Tulsa do not need to reapply for undergraduate admission. They may be reinstated as continuing students by the Office of the Registrar under the same status previously accorded them by their college advising office. Continuing students who have been dismissed must petition their college dean for readmission.

Transfer Credit. The college transcripts of admitted applicants are evaluated by the advising office of each undergraduate college. Transfer applicants are notified in writing of credit that will be accepted toward their intended degree plan at The University of Tulsa. See page 24 for further clarification of the awarding of credit.

Non-Degree-Seeking Status

Non-Degree Seeking Application Procedures

A student should apply for admission as a non-degree-seeking student under the following circumstances:

- Attending on a temporary basis as a “visiting student” while pursuing a program of study at another institution;
- Fulfilling undergraduate prerequisites for graduate or professional school;
- Seeking individual courses for personal and/or professional development;
- Enrolling in college classes while still in high school; or
- Auditing a course at The University of Tulsa.

Application for Admission and Fee. An abbreviated non-degree-seeking application form must be submitted to the Office of Admission, along with a non-refundable, one time application fee which is specified on page 32. The application form is available from the Office of Admission.

Transcripts. An official transcript must be sent to the Office of Admission from the institution most recently attended or, in the case of candidates who hold undergraduate degrees, from the degree-granting institution. Academic advisors may require additional transcripts to verify prerequisites.

Green Card (PRA) Status Verification Form. Applicants who have a green card (Permanent Resident status) must submit a completed, signed and notarized Verification Form along with a signed and notarized copy of both sides of their green card. The Verification Form may be obtained from the Office of Admission, or online at www.utulsa.edu/admission-and-financial-aid/undergraduate-admission/Applications-and-Forms.aspx.

Non-Degree-Seeking Admission Selection

Non-degree seeking students must be in good academic standing at the post-secondary institutions previously attended and must demonstrate potential for success in the specific coursework they wish to pursue at The University of Tulsa. Students who have been dismissed or suspended from any college or university will not be considered for admission as a non-degree seeking student until one calendar year has elapsed.

After 15 semester hours have been earned under this status, students must obtain

approval from the office of the collegiate dean to continue enrollment as a non-degree seeking student. Non-degree seeking students will be accorded advising privileges and will be subject to the academic rules and regulations of the college in which they are enrolled but are not required to follow a degree plan.

A non-degree-seeking student who decides to seek a degree must reapply through the Office of Admission and meet the criteria for admission as a degree-seeking student.

Summer School Enrollment

Students who are not continuing students at The University of Tulsa but wish to attend summer school only should complete the special summer school registration/application form available under the Schedule of Courses link at <http://utulsa.edu/courses/schedule>. An application fee and transcripts are not required. Summer school students who are degree-seeking at another college or university must be in good academic standing at their home institution.

Concurrent Enrollment of High School Students

High school students who are mature, motivated, and exceptionally capable academically may apply to take courses for college credit before graduation if they have completed appropriate preparatory course work at their school or if they wish to pursue areas of study not available at the secondary level. Concurrent students may apply for fall, spring or summer admission and must provide updated documents and be approved prior to each semester of enrollment. To evaluate each applicant for admission to the Concurrent Enrollment Program, the following documents are required:

Concurrent Enrollment Application Form. The form may be requested from the Office of Admission and must be completed by the student (including a brief essay) and signed by both the student and parent. No fee is required.

High School Transcript. An official high school transcript must be mailed from the school to the Office of Admission. A cumulative grade point average of 3.5 is required.

School Approval Form. The form may be requested from the Office of Admission and must be signed by the current high school principal or counselor for each semester of enrollment.

ACT/SAT Scores. An official score report of ACT or SAT must be submitted. An ACT Composite score of 25 or a combined score of 1130 on the Math and Critical Reading sections of the SAT is required. If ACT or SAT has not been taken, comparable scores on PLAN or PSAT may be considered.

Interview. Concurrent applicants are requested to schedule a personal meeting with an admission counselor.

Deadline. Concurrent students are encouraged to have all materials submitted no later than July 1 for fall classes or December 1 for spring classes.

International Student Admission

Students from other countries should contact the International Student Services Office at least six months in advance of the time they wish to enter the University to confirm deadlines for the receipt of applications.

Students must complete an application for admission, pay the application processing

fee, and supply certified copies of original transcripts, with certified English translations, for all secondary and post-secondary work. Academic records include a student's secondary school marks, the result of any national school-leaving examination or certificate, and records from each college or university attended outside the United States. Failure to disclose a college previously attended could result in a withdrawal of the application or offer of admission. Students transferring from another institution in the U.S. are required to submit official transcripts from each college or university they have previously attended. Transfer students who have completed fewer than 60 semester hours at the time of application must also submit transcripts of secondary work. For all course work beyond the secondary level, a syllabus must be submitted so that transfer credit may be determined.

Financial responsibility must be attested to in accordance with current cost estimates available from the International Student Services Office.

English proficiency is not used in determining the admissibility of students to the University. Proficiency is required, however, before a student will be allowed to enroll in academic courses.

International students under age 21 and unmarried who are admitted as first- or second-year students will live and dine on campus. See the residency requirements for undergraduate students on page 37 in the Campus Housing and Dining section of this *Bulletin*.

English Institute Admission

Admission to the English Institute for International Students (EIIS) is open to all students accepted to The University of Tulsa without the required level of English proficiency. Those interested in attending the Institute should follow the application procedures outlined in the International Student Admission section found on page 16 of this *Bulletin*. Eight-week sessions are available year round. EIIS students are eligible for University housing when available. For more information about the English Institute, see page 58 of this *Bulletin* or visit www.utulsa.edu/admission-and-financial-aid/undergraduate-admission/International-Students/English-Institute.aspx.

Registration

Admitted students will be instructed by the collegiate advising office regarding enrollment procedures. Continuing students should initiate enrollment with their collegiate advising office. Students must complete proficiency tests, placement exams, and other requirements prior to the start of the semester in which they wish to take a course for which proficiency, placement or other standing is required. Enrollment (including the addition of any courses to existing enrollment) will close at 5:00 p.m. on Tuesday of the second week of classes for the fall and spring semesters.

Academic Practices and Policies

Undergraduate Education at The University of Tulsa

Philosophy

Through a wide range of courses and modes of learning, undergraduate education at The University of Tulsa challenges students to develop an appreciation of a liberal education, a breadth of knowledge, and the reasoning and communication skills that will enhance their ability to participate fully in contemporary society. Students not only enjoy diverse opportunities to participate in the scholarly process but also, through study in a major subject area or area of concentration, gain depth of understanding and proficiency in a particular subject.

The Tulsa Curriculum

Every undergraduate must fulfill the requirements of the Tulsa Curriculum, which has two parts: the core curriculum and the general curriculum. Most students complete the Tulsa Curriculum before beginning the junior year. The University Curriculum Committee exercises oversight of the Tulsa Curriculum.

The Core Curriculum

Core curriculum requirements in writing, mathematics, and languages include the development of fundamental intellectual skills that are not only immediately useful in helping students meet the requirements of general education courses but that also equip them with basic competencies.

It is presumed that all undergraduates enter the University with adequate computer skills. Short courses and workshops are available to students who want to improve their computer skills.

Writing. All undergraduates must take at least two writing courses. Students in the Henry Kendall College of Arts and Sciences take Exposition and Argumentation (ENGL 1033) and a First Seminar (FS 1973). Students in the Collins College of Business and the College of Engineering and Natural Sciences take Exposition and Argumentation (ENGL 1033) and Writing for the Professions (ENGL 3003). Non-native speakers of English and other students who need developmental work in the fundamentals of writing, as evidenced by their test scores and performance on a diagnostic writing test, are required to enroll in Introduction to College Writing (ENGL 1004) as a prerequisite for ENGL 1033. Total: 6-10 hours.

Mathematics. All incoming undergraduates must complete, place out of, or show proficiency in Contemporary Mathematics (MATH 1083) or another basic mathematics course certified by the University Curriculum Committee such as Mathematics with Applications (MATH 1093), Basic Calculus (MATH 1103), or Pre-Calculus Mathematics (MATH 1163). Total: 0-3 hours.

Bachelor of Science students have additional requirements in math and computer science or computer applications.

For specific requirements of each degree program, consult the appropriate collegiate advising office.

Languages. Students in many degree programs are required to take a foreign language, as follows:

All Bachelor of Arts students must complete, place out of, or show proficiency in a foreign language through the second-year level. Total: 0-14 hours.

All Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Music Education students must complete or show proficiency in a foreign language through the first-year level (1004-1014) and either continue the foreign language through the second level or take two additional courses from Blocks I and II in the general curriculum. Total: 0-14 hours.

All Bachelor of Science in Business Administration students must complete, place out of, or show proficiency in a modern foreign language through the first-year level (1004-1014). Total: 0-8 hours. The Collins College of Business offers a Bachelor of Science degree in International Business and Language which, in addition to the business core, requires language proficiency in French, German, Spanish, Russian or Chinese.

The General Curriculum

Because the development of knowledge involves collaboration with the past and engagement with the present, the general curriculum, through the blocks defined below, is structured to encourage this collaboration and engagement. Its goal is to lead students to a breadth of knowledge and intellectual rigor rooted in the academic disciplines. Reflecting the University's commitment to writing through the curriculum, courses in the general curriculum typically require significant amounts of writing. These courses also emphasize original texts, wherever appropriate, as well as current scholarship.

The University schedule for each semester specifies course offerings in the general curriculum. In meeting the general curriculum requirement, the student may take no more than two courses from a single department. Course selection may be governed in part by the student's prospective major. Except for students in the College of Engineering and Natural Sciences who are typically exempted from Block III, each student must complete 25 hours of general curriculum courses: six from Block I, twelve from Block II, and seven from Block III.

Block I (AICE): Aesthetic Inquiry and Creative Experience (6 hours). These courses consider the human activities of making, thinking, and doing. Two different approaches are offered: those that involve students in the creative process through study in courses designed to produce or perform creative works; and those that investigate the nature of texts, works of art or music, or systems of thought.

Block II (HSI): Historical and Social Interpretation (12 hours). These courses investigate and interpret how human thought and action — and the products of such thought and action — are shaped by social, historical, cultural, environmental, and/or psychological factors.

Block III (SI): Scientific Investigation (7 hours). These courses focus on methods of investigation and explore the relationships among key concepts in the sciences. The process of scientific inquiry — including hypothesis generation, data collection, analysis, and modeling, use of technology and mathematics, and presentation of results — is fundamental to courses in this block. These courses may also consider the interrelationships among technical concepts and contemporary societal issues. At least one of each student's Block III courses must include laboratory or field experiences that provide practical experience in inquiry.

Senior Requirement. Most undergraduates at The University of Tulsa complete their course of study with an intensive, rigorous, semester-long academic experience in the senior year. The nature of this requirement varies by discipline and may be a design project, a recital, an internship, or a specially designed interdisciplinary or major course. To determine the appropriate senior requirement, students should consult their faculty advisors or collegiate advising offices.

Honors Program

The Honors Program engages students in the critical examination of perennial questions and big ideas that thinkers have tackled across time and across cultures. Honors Scholars begin with a set of integrated Honors seminars. Taking one Honors Seminar each semester, students trace the development of the moral and political commitments, religious practices, scientific achievements, and artistic sensibilities that shape our modern world. These seminars, listed on page 84 of this *Bulletin*, feature lively discussion and debate. Honors professors encourage students to think hard about difficult ideas, to ask unsettling questions, to defend what they say with good reasons, and to write well.

Beyond the seminars, Honors Scholars develop their own Honors Portfolio. In it, students deliberately reflect on their own scholarly development, identify areas and skills they would like to further develop, and pursue that plan. The Honors Portfolio is designed to foster both intellectual independence and close working relationships between professors and students. Through it, students hone their own voices as public intellectuals; they practice connecting their areas of expertise to pressing issues of the day; and they continue to practice the art of conversation through the lively, interdisciplinary exchange of ideas.

Each Honors Seminar counts toward one of the block course requirements that all University of Tulsa students must fulfill. Honors Scholars may major in any academic discipline offered by the University.

Students interested in the Honors Program submit a separate application to the Honors Office. Students who are in the 95th percentile on national exams (ACT or SAT), have a high school grade point average of at least 3.5, or are in the top 10 percent of their graduating classes are strong candidates for admission.

An Honors Program scholarship is given annually to each participant. Information about Honors Program scholarships may be found on page 52 in the Student Financial Services section of this *Bulletin*.

Honors Suites are available to incoming Honors Scholars who would like to live with other students engaged in the Honors curriculum. See page 38 in the Campus Housing and Dining Section of this *Bulletin* for more information.

Honor Societies

The University of Tulsa supports chapters of national honor societies that recognize the hard work of our students.

Phi Beta Kappa is the oldest American honorary society, founded at the College of William and Mary in 1776. The University of Tulsa chapter, Beta of Oklahoma, was chartered in 1989. The chapter annually elects to membership students with exceptionally strong records in the liberal arts and sciences. Election to membership in Phi Beta Kappa is one of the highest academic honors and is almost universally regarded as evidence of superior scholarly attainment.

Candidates for membership must be in their junior or senior year, must have attended The University of Tulsa for a minimum of three semesters of full-time work, and must be enrolled in a fourth semester of full-time work at TU. In addition, students must have taken at least 90 hours of liberal arts courses (other than professional and applied courses), demonstrating breadth as well as depth of course study. Other factors influencing selection into membership include a high grade point average, two years of a foreign language and a minimum math requirement of MATH 1103, Basic Calculus, or two courses consisting of MATH 1163, Pre-Calculus, and another math or statistics course at an equivalent level of difficulty.

The culmination of the year's activities is the annual Initiation Ceremony, normally held the evening before spring commencement. During this ceremony new student members ("Members in Course") and distinguished Alumni/ae and Honorary Members are inducted in a formal and memorable ceremony that publicly recognizes and honors each inductee. For additional information, contact Professor Lamont Lindstrom, Department of Anthropology.

Phi Kappa Phi was founded in 1897 as the Lambda Sigma Eta Society at the University of Maine. In 1900, the society added chapters at the Pennsylvania State College (now Pennsylvania State University) and the University of Tennessee and was renamed Phi Kappa Phi. The University of Tulsa chapter, chartered in 1990, is one of over 250 chapters in the United States.

Phi Kappa Phi elects members from all recognized branches of academic endeavor. Members are selected on the basis of high academic achievement and good character. Inductees may include a maximum of ten percent of the graduate students in the University, ten percent of all graduating seniors, and no more than five percent of juniors.

TU students may also join honor societies, listed on page 66, for specific fields of study, class or other criteria.

Study Abroad

Center for Global Education. The University of Tulsa is committed to offering its undergraduate students an opportunity to acquire cross-cultural experience by spending a term studying, interning, or conducting research overseas. The Center for Global Education (CGE) advisors work closely with students to assist them in finding appropriate programs which fit their academic needs as well as their personal and career goals.

The Center for Global Education manages 12 reciprocal exchange partnerships with universities abroad and has affiliation agreements with well-respected study abroad

provider organizations which offer overseas study and internship opportunities to students worldwide.

After meeting study abroad application requirements and with the approval of a student's College, students may choose to take courses abroad which may satisfy major, minor, block, and elective credit and degree requirements.

Students from all disciplines are encouraged to consider applying to participate in a program abroad. Federal financial aid and TU-sponsored scholarships are portable on approved study abroad programs, keeping the cost for a program abroad relatively close to the same cost as attending TU. A number of competitive study abroad scholarships are available and students are encouraged to apply. For more details on TU's programs abroad, see page 45 of this *Bulletin* and contact the Center for Global Education at 918-631-3229, or visit the CGE website at www.utulsa.edu/globaleducation.

The Center for Global Education administers the interdisciplinary Global Scholars Program which is described on page 464 of this *Bulletin*.

Certificate Programs

Students in all three undergraduate colleges may complete certificate programs which allow them to acquire proficiencies in a specialized area of study. Many of the hours that count toward a certificate will also count toward the student's general education and major requirements or as electives. A certificate program may also function unofficially as a minor. Certificates may be earned by individuals who already possess one or more college degrees.

Air Force ROTC

By agreement with the United States Air Force, eligible full time students at The University of Tulsa may participate in Oklahoma State University Air Force ROTC. Cadets participating in the crosstown program maintain their status as students at The University of Tulsa and graduate with full TU credentials; however, upon graduation, they receive commissions as second lieutenants in the United States Air Force through the DET 670 AFROTC program at OSU. To accommodate the schedules of crosstown participants, AFROTC classes are typically held on Thursday afternoons and evenings on the OSU campus in Stillwater, Oklahoma.

Eligibility. Students in any academic major, including graduate students (with a waiver), may participate in the AFROTC program. A cadet must be a full time student, a U.S. citizen, and less than age 30 in the year of commissioning (some exceptions apply). A cadet must have a cumulative undergraduate GPA of at least 2.00. Other eligibility requirements apply and are subject to change.

Scholarships and Incentives. Students may be eligible for scholarships offered by OSU AFROTC. For more information on these opportunities, contact the AFROTC Recruiting Flight Commander (RFC) at 405-744-7744, or visit www.afrotc.com.

Obligation. In most cases, students may try AFROTC by taking the freshman or sophomore AFROTC courses without obligation. In most cases, students who successfully complete the ROTC program become second lieutenants in the U. S. Air Force with a four-year active duty service obligation. However, service obligations vary with career assignments and may include commitment times longer than four years.

The Air Force ROTC Curriculum. Air Force ROTC courses are listed in the OSU catalog as Aerospace Studies (AERO). Freshman and sophomore AFROTC classes are

one credit hour, while junior and senior AFROTC classes are three credit hours. All academic classes require the cadet to enroll in and attend a weekly Leadership Laboratory (LLAB) period during which leadership and followership skills are taught and emphasized. The Professional Officer Course (POC) portion of the AFROTC program is offered to juniors and seniors who have committed to a four-year-post graduation service commitment with the Air Force. Students also attend mandatory field training encampment during the summer between their sophomore and junior years.

To learn more, call the Air Force ROTC unit at 405-744-7744, visit the web site at <http://afrotc.okstate.edu> or e-mail afrotc@okstate.edu.

Student Responsibility

The University strives to provide stimulating instruction, rigorous curricula, and challenging academic standards. Collegiate deans and academic advisors are willing to help explain available options, describe requirements, and plan degree programs. Nonetheless, students ultimately are responsible for proper enrollment, attainment of acceptable academic standards, and fulfillment of graduation requirements. Students who fail to maintain minimum standards are subject to probation or dismissal from the University.

At the beginning of each semester and again before midterm, faculty have the opportunity to report the names of students who are doing unsatisfactory work to the collegiate advising office and the Center for Student Academic Support (CSAS). The Center for Student Academic Support, as part of the University's Retention Alert Program, then notifies the students. At the first sign of academic difficulty, responsible students should ask instructors for help and should seek the assistance of the collegiate academic advisors and the Center for Student Academic Support.

Academic Standing

Academic Advising

All students are advised through the college in which they are enrolled. In some cases academic advising is coordinated by a professional advising staff, but in all colleges faculty members work closely with students to assist in selecting courses and eventual majors. In many cases, faculty advisors also help students plan for graduate and professional school. Academic advising has a high priority at The University of Tulsa, and students are expected to see their advisors each term before enrolling. For further information on advising, see page 56 in the Advising and Support section of this *Bulletin*.

Classification

Students are classified on the basis of the number of credit hours earned. The classifications used are:

- 0-29 hours - Freshman
- 30-59 hours - Sophomore
- 60-89 hours - Junior
- 90+ hours - Senior

A student must be enrolled in at least 12 semester hours of work to be considered a full-time student. Enrollment in more than 18 hours during a semester requires special permission from the dean of the college. Additional tuition will be charged for each semester hour over 18.

Course classifications are:

- 1000 - Freshman level
- 2000 - Sophomore level
- 3000 - Junior level
- 4000 - Senior level
- 5000 - Advanced Senior level courses taken with advisor consent only

The last digit of the course number indicates the number of credit hours for that course. One credit hour is the equivalent of 750 minutes in the classroom.

Credit by Examination

The maximum amount of credit towards a baccalaureate degree that may be awarded by examination is 36 hours. This may be awarded under any combination of the following four types of credit by examination programs.

Advanced Placement Examinations. The University participates in the College Entrance Examination Board's program of Advanced Placement (AP) examinations, which allows high school students to earn college credit. Official test scores must be forwarded directly from the Educational Testing Service to the Registrar. AP exam score requirements for credit may be obtained through the Office of Admission.

Proficiency Examinations. A program of advanced standing gives exceptionally qualified students a chance to earn credit by proficiency examinations. In order to be eligible to receive University of Tulsa credit through this program, students must be currently enrolled at the University. Proficiency tests are administered by University faculty only after the application has been completed in the Office of the Registrar and the required fee paid in the Bursar's Office. The cost of proficiency examinations is specified on page 33 in the Tuition and Fees section of this *Bulletin*.

International Baccalaureate Program (IB). The University of Tulsa will award students who complete the IB Diploma with a score of 28 or above at least 30 credits. Credit will also be awarded on a sliding scale to students completing the IB Diploma with a score below 28. Students should consult the collegiate advising offices for details. A list of courses credited for IB Examinations is available from the Office of the Registrar or the Office of Admission. Final determination of hours awarded is at the discretion of the collegiate advisor.

Transfer Credit

Credit earned at other institutions is evaluated after admission by the academic advisors in the college of enrollment. Transfer applicants will be notified in writing of their advanced standing and the number of hours remaining to complete a degree or certificate program at The University of Tulsa.

Transfer work taken while a student at The University of Tulsa must be approved by the advisor in the student's collegiate office prior to enrollment at the other university. Courses repeated at another institution do not count for University of Tulsa credit

without prior approval from the appropriate collegiate dean. The grade previously earned at The University of Tulsa will remain on the student's transcript and continue to be part of the student's grade point average. Failure to receive prior approval from the dean's office will result in work not being transferable to TU.

Transfer credit will be granted only for courses offered during a regular semester with a minimum three week term, and consistent with applicable academic standards of The University of Tulsa and its academic programs.

Course work taken from accredited institutions and in which a grade of C or better was earned is generally transferable. However, the total number of hours accepted in transfer may be higher than those accepted for a specific college or degree. Academic advisors in each college apply faculty policy to determine which courses apply towards the degree requirements and which would be considered "overage" (not applicable) in a chosen major. Consequently, the advising office of each college is responsible for informing the student of the difference between the number of hours transferred into TU and those hours applicable toward the anticipated degree program.

Exceptions and policy on the transfer of collegiate requirements must be approved by the college dean. Credit is not granted for correspondence work. Experiential work will not be accepted in transfer. Community college work may not account for more than one-half the hours required for graduation from the University. The last 45 hours of course work must be completed in residence at The University of Tulsa.

Probation

Student academic performance is reviewed at the end of every fall and spring semester. Any student whose cumulative University of Tulsa grade point average falls below 2.0 (C) is automatically placed on probation. A student on academic probation may be required to make up course deficiencies, accept limitations on enrollment, or abide by limitations on extracurricular activities, as determined by the dean of the college in which the student is enrolled.

In order to be removed from academic probation, students must raise their University of Tulsa cumulative grade point average to 2.0 and fulfill any other conditions imposed by the dean. The decision to remove a student from academic probation may be made only by the dean of the college in which the student is currently enrolled. Students may ask to be removed from probation at the end of a summer session if they have raised their cumulative grade point average at The University of Tulsa to at least 2.0. Students placed on probation cannot be removed from probation with work taken outside The University of Tulsa.

A student may be placed on probation or dismissed from a college by the dean of that college for reasons other than poor grades, even if he or she is in good academic standing otherwise. This includes, but is not limited to, the falsification of application materials including academic records, failure to satisfy stipulations imposed upon admission to the program, failure to maintain the standards of academic, ethical, or professional integrity expected in a particular discipline or program, and failure to satisfy these or other program or college requirements in a timely fashion.

Dismissal

Students who remain on probation for two consecutive semesters are subject to dismissal from the University. Those who fail more than 50 percent of their grade point hours or earn a grade point average of 1.0 or lower for any academic year are subject to dismissal even if they have not been on probation previously.

Dismissal decisions are made by a student's collegiate dean based on the student's academic performance. Extenuating circumstances may cause a collegiate dean to place or continue a student on probation. If the collegiate dean elects to continue a student on probation for additional semesters, the dean has the option of dismissing the student at the end of any subsequent regular semester that the student continues to be on probation. No student may continue on probation for more than four consecutive semesters.

A student dismissed for academic reasons cannot under normal circumstances be readmitted to The University of Tulsa until one calendar year has elapsed since the last term in which the student was registered. Readmission requires permission from the dean of the readmitting college. Credit earned at another college or university by a student during the dismissal period is not applied for credit toward a degree from The University of Tulsa unless approved by the readmitting dean.

Baccalaureate Degrees

Degrees Awarded

The University of Tulsa offers the following undergraduate degrees: Bachelor of Arts (B.A.), Bachelor of Fine Arts (B.F.A.), Bachelor of Arts in Deaf Education (B.A.D.E.) Bachelor of Music (B.M.), Bachelor of Music Education (B.M.E.), Bachelor of Science (B.S.), and Bachelor of Science in the following fields: Applied Mathematics (B.S.A.M.), Athletic Training (B.S.A.T.), Business Administration (B.S.B.A.), Biochemistry (B.S.B.), Chemical Engineering (B.S.Ch.E.), Chemistry (B.S.C.), Computer Science (B.S.C.S.), Deaf Education (B.S.D.E.), Speech-language Pathology (B.S.S.P.), Electrical and Computer Engineering (B.S.E.C.E.), Electrical Engineering (B.S.E.E.), Geosciences (B.S.G.S.), Exercise and Sports Science (B.S.E.S.S.), Information Technology (B.S.I.T.), International Business and Language (B.S.I.B.L.), Mechanical Engineering (B.S.M.E.), Nursing (B.S.N.), Petroleum Engineering (B.S.P.E.), Engineering Physics (B.S.E.P.), Biogeosciences (B.S.B.G.), and Geophysics (B.S.G.P.).

Degree Requirements

All degrees are awarded by a vote of the University's Board of Trustees upon recommendation by the faculty. Students must complete their prescribed curricula with at least a 2.0 (C) grade point average in order to become candidates for a degree and must meet the additional degree requirements of their college. Transfer students must have at least a 2.0 (C) grade point average in work taken at The University of Tulsa.

Special Considerations

Minimum Hours Required. All undergraduate degrees from The University of Tulsa require a minimum of 124 hours for completion. Depending upon the major, students in the Henry Kendall College of Arts and Sciences must complete between 124 and 131

credit hours to graduate. In the Collins College of Business, the minimum ranges between 124 and 126 credit hours; and in the College of Engineering and Natural Sciences, the minimum ranges between 124 and 134 credit hours. For further information on these minimums, consult the appropriate collegiate advising office.

The last 45 semester hours in any degree program (major) must be completed in residence.

Double Majors. Students who wish to major in two different fields may do so by completing the minimum number of hours for each major. Double majors may be pursued either in one college or in two different colleges, but in the latter case, the permission of the deans of both colleges must be obtained at the time the second major is declared.

Double Degrees. Normally, to receive a second Bachelor's degree, a student needs to fulfill the minimum number of hours/specific requirements for each degree program. Credit hours may be applied to more than one degree program only with permission from the dean of the college in which the degree program is offered.

Graduation Check. A graduation check is made in the first semester of the senior year by the collegiate advising office to ensure that all degree requirements will be met in a timely manner. When a student completes all degree requirements, the student will graduate at the end of the semester in which all requirements were met. Students must file a degree card with the collegiate advising office at the time of registration for the final semester. Confirmation of candidacy must be obtained from that office and forwarded to the Registrar. The University will confer a degree on a student who has completed all of the requirements for the degree even though the student has not applied for graduation.

Commencement Participation. The University holds commencement ceremonies in December and May. Students who complete degree requirements in the fall are to participate in that year's December commencement, and those completing their requirements in the spring are to participate in commencement that May. In the spring semester, students in good standing who lack up to 12 hours of course work that they have enrolled to complete in the upcoming summer session are permitted to take part in the May commencement. Any exceptions to this policy must be cleared by the appropriate collegiate dean. Honors will not be called for students graduating during the summer, and are called for fall and spring graduates based upon the cumulative GPA earned as of the end of the prior regular term.

Teacher Education. Programs in teacher education are offered through the Henry Kendall College of Arts and Sciences. Students interested in teacher education should consult the certification advisor in the School of Urban Education and refer to teacher education requirements beginning on page 128 in the School of Urban Education section of this *Bulletin*.

Graduation with Honor

Students who maintain a 4.0 grade point average in all undergraduate courses taken at TU graduate summa cum laude; those with a 3.8 or higher, magna cum laude; and those with a 3.5 or higher, cum laude. These designations appear on the official transcript and on the diploma.

Rules and Regulations

Grading System

The following grades are assigned: A (superior), B (above average), C (average), D (below average), P (pass), I (incomplete), F (failure), W (withdrew), AU (audit), and MG (missing grade).

Policy on Incomplete Grades. Undergraduate students who are doing passing work but who, because of serious illness or other legitimate extenuating circumstances, cannot complete their course work may, at the discretion of the instructor, receive a grade of I (incomplete). Incompletes will not be granted without an exceptionally good reason to students who have been absent excessively during the term nor to students who have merely failed to complete course work.

When the instructor grants an incomplete, a Record of Incomplete form must be completed and filed in the office of the undergraduate dean. This form, which is to be signed by the instructor and student, should specify what must be done to remove the incomplete and give a deadline for the completion of the unfinished work. The contract will be attached to the course grade report for inclusion in the student's official file in the Office of the Registrar.

The incomplete grade will remain on the student record for no more than one year. After that time, unless the course work is completed or the instructor is able to assign a grade, the Office of the Registrar will change the I to an F. Students with more than nine credits of I will not be permitted to enroll in courses at the University without the permission of the office of the collegiate dean.

Pass-Fail Option. Subject to certain restrictions, each college allows students to take a limited number of courses on a pass-fail basis. For regular term courses the request must be made in writing to the collegiate advising office within the first three weeks of the term. For short courses (including summer terms) the deadlines are based on one day for each week of class time, for example, a request must be made within the first six days of a six-week term. Deadlines for declaring this option are not subject to change. For further limitations imposed by a particular college, consult the office of the collegiate dean. Grades of C or better in such courses will be recorded as P (pass). Grades of D will be recorded as D and grades of F as F and are calculated in the grade point average. In a limited number of courses the only grade offered is Pass/D-F.

Grade Point Averaging. Grade points are computed as follows: four points for each semester hour of A, three points for each semester hour of B, two points per hour of C, one point per hour of D, and 0 points for F. The University offers a limited number of courses graded as P/D/F only, with no option for an A, B, or other letter grade.

To determine a grade point average, total number of semester hours attempted at The University of Tulsa are divided into the total number of grade points earned at The University of Tulsa, except: (1) hours earned with a grade of P and grades designated as I, AU, or N are omitted from this calculation, and (2) only the last grade earned when a course has been repeated is used in the grade point calculation.

Repeating a Course. An undergraduate student may repeat a course up to two times and will be charged the usual fees each time. Students are not allowed to repeat a course in which they have an "incomplete" pending. Additional repeating of a course may be allowed only with written approval from the dean of the student's college of enrollment.

When a course is repeated, only the most recent grade earned in the course will be included when calculating the student's cumulative grade point average.

Honor Rolls. At the end of each semester, the President's Honor Roll and the Dean's Honor Roll are determined based on current semester grades only. For the Dean's Honor Roll, the student must have at least twelve graded hours and at least a 3.500 term grade point average. The President's Honor Roll requires at least twelve graded hours and a term grade point average of 4.000. Graded hours include grades of A, B, C, D, and F. Passes and incompletes are not included in graded hours. The University does not round up grade point averages for these criteria to be met.

Excused Absences

Students who participate in an officially sanctioned, scheduled activity shall be given an opportunity to make up exams or other assignments that are missed as a result of this participation. The manner in which missed tests or other assignments are made up is left to the discretion of each individual faculty member; however, students shall not be penalized and should be informed of the instructor's makeup policy, preferably in writing, at the beginning of each semester. It is the responsibility of the student to make arrangements with the instructor prior to the scheduled exam or other missed assignment. Only absences reported by the Registrar to the faculty will be considered excused.

Students who are absent for personal reasons (e.g., contagious illness requiring quarantine, significant hospitalization, a death in the immediate family) are covered by the Absence Notification Policy of the Center for Student Academic Support which may be found on the CSAS website at <http://www.utulsa.edu/CSAS>. All absences are considered on a case-by-case basis by the instructor in accordance with the policies of the academic unit and college.

Auditing

Students who elect to audit a course will have all the responsibilities and privileges of students taking the course for credit, except those of taking the final examination or receiving credit for the course. Auditors who have completed all other requirements for a course may elect to take the course for credit at any time within the first three weeks of a regular semester if the course instructor and the college dean give their permission. The schedule for auditing courses during the summer term should be obtained from the Office of the Registrar.

Students originally enrolled in a course for credit may elect to change their status to that of auditor at any time within the first three weeks of a regular semester if they are passing the course at the time that the change in status is requested, and if they secure the consent of the course instructor. Students must complete a drop/add form and secure permission from the collegiate dean in order to make such a change.

Students who enroll in a course for audit but fail to attend the class may be withdrawn at the request of the instructor and the approval of the academic dean. The University's normal refund policy for withdrawals will apply.

Withdrawal

Voluntary Withdrawal from the University. Official withdrawal from the University requires a standard procedure originated through the office of the collegiate dean. It is financially and academically advantageous to students to follow the official withdrawal procedure. Students withdrawing prior to the start of the seventh week of a regular semester are entitled to a partial refund of tuition calculated from the date of their official withdrawal. **Nonattendance of classes does not constitute official withdrawal.**

Medical/Psychological Withdrawals or Leaves of Absence. Students wishing to withdraw or take a leave of absence from the University based on a medical or psychological reason should contact the Center for Student Academic Support to discuss their reasons for seeking a withdrawal or a leave of absence, the medical documentation required, their plans while on leave, and to work out any conditions that may be necessary for an easier transition back to The University of Tulsa. It should be noted that a student may voluntarily withdraw before the twelfth week of classes through the normal withdrawal process. The complete policies are available at the Center for Student Academic Support or online at <http://www.utulsa.edu/CSAS>.

“W” grades will be assigned to all classes for the current semester if a medical/psychological withdrawal is granted. Students who have not completed the process will be assigned permanent grades by the instructor. Retroactive grade changes are not permitted.

The Center for Student Academic Support will maintain all documentation in confidential student files and will provide verification of appropriate documentation as needed. A medical/psychological withdrawal does not negate the student’s financial responsibility to the University. Students should contact the Bursar’s Office, Housing and Dining, and/or Student Financial Services regarding outstanding fees, bills, refunds and other charges related to their enrollment or withdrawal.

Withdrawal from the University for Military Service. Students who are called to active military duty at any time during their enrollment will be eligible for a full refund or credit of their tuition for the semester of their withdrawal. Students are strongly encouraged to discuss their situation with their academic advisor to consider alternate arrangements. For example, students who are called to report for active duty near the end of a semester may choose to take “incompletes” in their courses, rather than repeating the entire semester when they return to the University. The University will work closely with students to minimize the impact a withdrawal will have on their academic progress. All students called to active military duty are required to meet with the Veteran’s Coordinator in the Office of the Registrar.

Non-voluntary Withdrawal from the University. Students may be required to withdraw from the University for habitual absence from class, habitual idleness, or any other behavior that prevents them from fulfilling the purposes implied by their registration in the University. A grade of “W” will be entered for each of the courses in which a student is registered. Students who have been required to withdraw must apply for readmission to their dean in the same manner as that required of a suspended student.

Voluntary Withdrawal from a Course. Withdrawal from a course prior to the start of the fourth week of a regular semester is considered a cancellation of enrollment, and the course is not shown on students' academic records.

Withdrawal from a course after the start of the fourth week and up to and including the twelfth week of a regular semester will be considered a partial enrollment for which a grade of W (withdrew) will be recorded.

Withdrawals are not permitted after the end of the twelfth week of a regular semester. The schedule for withdrawal from courses and refund of tuition is printed in the schedule of courses for each semester. Any formal withdrawal shall constitute a forfeiture of any and all right to the subsequent make-up of incomplete grades.

Non-voluntary Withdrawal from a Course. Students may be withdrawn from a class for habitual behavior which prevents the student or other students from fulfilling the purposes implied by registration in the University. A grade of "W" will be entered for the course in which the student was registered.

Transfer of Records

The Office of the Registrar will forward official transcripts to other institutions or prospective employers when requested by in writing students. Transcripts will not be issued for students who have not met their financial obligations to the University.

The University does not issue unofficial transcripts or copies of transcripts from other institutions.

Reading Days

No academic activities including classes, labs, or assignments will be scheduled during designated reading days prior to final exams at the end of each semester.

Academic Honesty

In keeping with the intellectual ideals, standards for community, and educational mission of the University, students are expected to adhere to all academic policies. Cheating on examinations, plagiarism, and other forms of academic dishonesty violate both individual honor and the life of the community, and may subject students to penalties ranging from failing grades to dismissal.

Academic misconduct also includes unauthorized or inappropriate use of University computers, vandalism of data files or equipment, use of computer resources for personal reasons unrelated to the academic and research activities of the University, plagiarism, violation of proprietary agreements, theft, or tampering with the programs and data of other users.

Specific policies exist in the various colleges in addition to the overall University policies published in this *Bulletin* and other campus policy guides.

Tuition and Fees

Unless indicated otherwise, figures in this section are for the fall semester of 2014 and are subject to change without notice at the beginning of any semester or summer term.

Tuition

Tuition deposit, required at first registration, forfeited for non-attendance \$250.00

Students with start date 2009/2010 or 2010/2011 academic year

Tuition per semester for full-time students \$16,411.00

Tuition per semester hour for part-time students taking 1-11 hours
including audit courses..... \$1,177.00

Overload tuition for students for each semester hour over 18 hours..... \$1,177.00

Students with start date 2011/2012 or 2012/2013 academic year

Tuition per semester for full-time students \$17,192.00

Tuition per semester hour for part-time students taking 1-11 hours
including audit courses..... \$1,234.00

Overload tuition for students for each semester hour over 18 hours..... \$1,234.00

Students with start date 2013/2014 and 2014/2015 academic years

Tuition per semester for full-time students \$17,525.00

Tuition per semester hour for part-time students taking 1-11 hours
including audit courses..... \$1,258.00

Overload tuition for students for each semester hour over 18 hours..... \$1,258.00

Prices quoted for study abroad courses are in addition to the tuition charges above.
Students enrolling in study abroad courses should consult the Center for Global Education Office or the program instructors concerning the amounts and due dates for payment of additional study abroad tuition, fees and expenses.

Fees

Fees are in addition to the tuition shown above.

University admission application fee, one-time, nonrefundable \$50.00

Applied music fee, per credit hour..... \$100.00
Required for all students enrolled in private music instruction, both music majors and non-music majors.

Art laboratory supply fee, nonrefundable, varies by course..... \$15.00 - 200.00

Chemistry laboratory fee, nonrefundable \$10.00 - 100.00

Community fee..... \$100.00

EIIS admission application fee \$50.00

Film production lab fee, nonrefundable, varies by course..... \$50.00 - 100.00
Required for all students enrolled in film production courses, both film majors and non-film majors.

Health sciences program fees	\$300.00
Approximate cost per year for supplies, drug testing fees, background check fees, mobile handheld device, clinical hub fees, immunizations, CPR certification fees, uniforms, ATI testing fees, and liability insurance. Consult the Department of Athletic Training, the Department of Exercise and Sport Science, and the School of Nursing for more information.	
Housing application deposit	\$250.00
ID card replacement fee	\$15.00
International Student Services fee, nonrefundable	
Fall semester.....	\$180.00
Spring semester.....	\$180.00
Summer term.....	\$100.00
Parking permit fees	
Parking permits are required of all students, faculty, and staff (part-time, full-time, day, and evening) who park motor vehicles on University property.	
Automobiles, per year.....	Contact ID/Parking Center for current fees
Motorcycles and mopeds, per year	\$25.00
Bicycles.....	Free
Placement fee	\$5.00
Professional liability insurance, per year	\$17.50
Professional liability insurance is required for students in clinical nursing, athletic training, exercise and sports science, psychology, and communication disorders courses.	
Proficiency examination fee, per credit hour, paid before the examination and nonrefundable	\$10.00
Residence Hall Association fee, nonrefundable	\$25.00
Required for students living in certain University residence halls	
Student Association fee, full time	\$60.00
Student Association fee, part time, per hour.....	\$5.00
Student Services fee, one time charge for first time enrollees.....	\$485.00
Student Health Insurance	
Student health insurance is required of all part-time and full-time students. An opt-out provision is available. See page 35 of this <i>Bulletin</i> and visit https://www.aetnastudenthealth.com/stu_conn/student_connection.aspx?GroupID=846521 .	
Single student, annual rate.	\$1,220.00
Student and spouse, annual rate.....	\$4,308.00
Student and children, annual rate.	\$3,385.00
Student, spouse, and children, annual rate.	\$6,473.00

Payment of Accounts

It is the student’s responsibility to ensure that all educational expenses are paid during the semester in which they are incurred. If financial aid does not cover all of the student’s expenses, the student may pay the balance in full or participate in the University of Tulsa’s monthly payment plan. Contact the Bursar’s Office, 918-631-2600, or visit <http://www.utulsa.edu/offices-and-services/controller/departments/bursars-office.aspx> to obtain information regarding the monthly payment plan. A nominal fee will be assessed to establish a monthly payment plan.

Payment of current semester charges or payment arrangements must be made by 5:00 p.m. on the first day of classes. Payment arrangements may include the monthly payment plan, pending financial aid, or a combination. Payments not made when due will be subject to a finance charge of 1.5% per month.

Currently enrolled students with an unpaid balance may be eligible to enroll in a subsequent semester provided that:

- The student balance is not in excess of \$5,000.00;
- The student balance includes current semester charges only; and
- The student has established a University-approved payment plan, at least one payment of that plan has been processed, and the terms of the payment plan allow for payment in full of the current unpaid balance by the start of the semester in which the student wishes to be enrolled.

A failed payment plan will result in cancellation of enrollment. If the account remains unpaid, the University reserves the right to suspend or withdraw the student from classes; to withhold grades, transcripts, and diplomas; deny future enrollments; and to require the student to move from student housing.

The University accepts charges on valid Visa, MasterCard, American Express, or Discover credit cards.

Refunds

If a student withdraws from his/her courses at the University, he/she may receive reduction of tuition based upon the following schedule. The reduction shall be calculated from the date on which application for withdrawal is processed. Housing and dining cancellations are processed separately based on written notice to the Housing Office. The University shall follow federally mandated refund schedules as they apply.

Failure to attend classes does not constitute an official withdrawal or drop.

Refund Schedule for Fall and Spring semesters

First day of classes.....	100%
Day 2 through end of first week	90%
Second and third week.....	50%
Fourth through seventh week.	25%
Remainder of semester	0%

Financial aid recipients receiving refunds will have their refunds returned to the proper aid accounts as determined by the Student Financial Services Office pursuant to Federal guidelines. The prescribed order of refund distribution is to FFEL programs, Federal

Perkins Loan program, Federal Pell Grant Program, and to other Student Financial Aid Programs.

Insurance and Immunization Requirements

Student Health Insurance. All students enrolled at The University of Tulsa are required to have health insurance coverage which provides for benefits in the State of Oklahoma. A student may obtain required coverage by purchasing health insurance coverage offered through the University, or obtain coverage provided through another carrier, such as coverage under a dependent student's parent's policy, as long as that coverage provides benefits for claims made in Oklahoma. If a student has a spouse and/or dependents, the student may add coverage for them under the policy offered through the University.

This approach to health insurance coverage helps to ensure that all enrolled students have access to health care, especially as increasing numbers of TU students come from outside of Oklahoma. To help ensure coverage, all students will have the cost of the coverage available through the University added to their University bill each semester. This charge is specified on page 33 of this *Bulletin*. However, the charge will be removed from the student's account upon verification of other appropriate coverage. Verification must be received annually by September 15th for students enrolling in the fall semester and January 31st for students enrolling for the first time in the spring semester.

Student Renter's Insurance. Renter's insurance is recommended for all students living in on campus or other away-from-home accommodations. In many cases, parents' homeowner policies will cover expenses related to dependents' expenses in external locations. However, it is wise to conduct an insurance review to assure that a student has the appropriate amount of coverage.

Immunization Policy. State law requires that all students who attend Oklahoma colleges and universities provide written documentation of immunization against hepatitis B, and measles, mumps and rubella (MMR). Students who reside in on-campus housing are also required to be immunized against meningococcal (meningitis) disease. For more information on health services and immunization requirements, visit <http://www.utulsa.edu/student-life/Health-and-Wellness/alexander-health-center.aspx> or call the Alexander Health Center at 918-631-2241.

Parking and Bicycle Permits

All University students, faculty, and staff must register motor vehicles and bicycles that are to be parked or utilized on University parking lots, streets or bicycle racks. Parking permits and copies of parking regulations may be obtained from the Parking and Card Services office located in Fisher Hall. Parking fees are specified on page 33 of this *Bulletin* and at www.utulsa.edu/parking.

TU One Card

The Parking and Card Services office in Fisher Hall issues identification cards to all students and University employees. The cards are required for admission to the campus libraries, dining hall, residence halls, labs, selected classrooms and other facilities. Whenever students are on University property or at University events, they are required to carry their TU One Card and to present it to University officials to verify their identity. ID cards may not be loaned to anyone at any time. Disciplinary action will be

taken against a student who fraudulently uses another's card, and against a cardholder who permits fraudulent use of his or her card.

The TU One Card is used for admission to Student Association-sponsored programs and University athletic events. All students at The University of Tulsa are allowed one free student ticket to each athletic event. Students must present their valid University of Tulsa ID and ticket for admittance to athletic events. For more information regarding the athletic event ticket policy, visit www.tulsaHurricane.com/tickets/tickets-students.html.

Hurricane Gold Dollars

Hurricane Gold Dollars is a safe and convenient option for on- and off-campus dining and shopping. Hurricane Gold Dollars reduces the need to carry or keep cash on hand. It is a non-interest-bearing declining balance convenience account, not a credit card or a checking account, and is tied to a student's TU One Card. Hurricane Gold Dollars may be used at all campus dining locations, at the bookstore, in vending machines and at many off-campus merchants and restaurants.

Purchases are deducted from the student's account when the ID card is swiped at the register. When the deposited limit is reached, a student may add funds to the card by simply prepaying an amount (\$25.00 or more) into the student's Hurricane Gold Dollars account at the Parking and Card Services office in Fisher Hall or in the Bursar's Office in McClure Hall. Students may also log on to www.MyGoldDollars.com.

Banking regulations and University policy prohibit cash withdrawals during the academic year, but remaining balances are fully refundable at the end of the spring semester or upon withdrawal from the University. Requests for withdrawal of funds must be presented in writing.

If a student loses a TU One Card, especially when there is money in his or her Hurricane Gold or Dining Dollars account, he or she should notify the Parking and Card Services office immediately. The student will be responsible for all transactions made by the student or by anyone else who uses the card, even if lost. However, to minimize loss, a \$20.00 per day spending limit has been established for all vending locations. The Parking and Card Services office will instantly change the account number to protect the account from unauthorized use and will issue a replacement TU One Card. The fee for a replacement card is specified on page 33 of this *Bulletin*.

Loss of an ID after normal business hours can be reported to any Hurricane Gold location with a cash register — e.g., the Hut or Pat Case Dining Center — which can “lock out” use of the missing card. Then, when the Parking and Card Services office reopens, the account number can be changed and the account reactivated. If this is not convenient, the student should leave a message on the voice mail at the Parking and Card Services office. Invalidation of the card will occur on the morning of the next business day. The University of Tulsa is not responsible for cash balances of lost cards.

Campus Housing and Dining

First- and Second-Year Residency/Dining Requirement

Retention research shows that living on campus can greatly enhance a student's educational experience and success. Thus, all first-year students are required to live in University residence halls, second-year students must live on campus, and both must participate in a University-provided meal plan unless they are formally exempted to reside with parent(s) or legal guardian(s) in their primary residence within a 20 mile radius of the campus. This policy applies to traditional first- and second-year post-high school students, international students, and transfer students who have not completed two years of residency at another university after high school. Married students and students over 21 years of age prior to start of the license period are exempt. Academic credit hours and/or class status do not exempt a student from the policy.

First- or second-year students under 21 years of age desiring to live at home with parents/legal guardians or in fraternity housing should obtain and complete a Housing Residency Form which may be found on the Housing and Dining website at www.utulsa.edu/student-life/living-and-dining-on-campus.aspx. This form must be signed by parents/legal guardians and notarized prior to submission. Requests for exemption from this policy should be directed to Housing and Dining Services at 918-631-2516.

Campus Housing Facilities

The University maintains the following residential facilities that are open to both graduate and undergraduate students: Lottie Jane Mabee Hall for 287 women; John Mabee Hall for 300 men; 5th Place House for 24 men and women; Fisher West Suites for 300 men and women in single- and double-room suites; the International Living Community comprises LaFortune House for 118 men and women on double- and triple-room suites and 7th Street House for 37 men; and approximately 774 campus apartments for upper class undergraduate students and graduate, law, married, and nontraditional students. All campus housing has wireless computer network access, expanded basic cable connection, laundry with no usage charge, as well as designated study lounges and recreational/social areas. A reception desk is staffed in each living area to provide information and to checkout recreational equipment to residents.

Residence Directors. Live-in professional staff members and student assistants work with student hall governments and staff to schedule programs and activities each semester and are available for general information, counseling, and referral assistance.

Residence Hall Association. All students living in University residence halls are members of the Residence Hall Association (RHA), whose goal is the improvement of the quality of life for resident students. RHA sponsors social, educational and community service activities for students living in the halls and on a campus-wide basis. RHA is hall government's umbrella legislative body and represents student views to the administration, develops policy recommendations, and plans educational and social programs for all residence hall students. Each hall elects representatives to serve on the legislative board, and executive officers are elected in an "all hall" election each spring to serve the following academic year.

The Apartment Advisory Council provides similar communication for apartment residents.

International Living Community. The International Living Community (ILC) in LaFortune House and 7th Street House offers an excellent opportunity for American students and international students to live together in an environment that fosters interaction and understanding. The ILC is open to all members of the TU community with the goal of a balanced population of domestic and international students. The ILC concept is based on the belief that studying, working and living with students from many different backgrounds and cultures greatly enhances students' educational experience.

Honors Suites. Suites are set aside in Fisher West Suites for students that have been admitted into the Honors Program. Space in the Honors Suites is limited and is assigned in the order it is requested. Students who have been admitted to the Honors Program and would like to live in the Honors Suites should indicate that preference on their housing application/license and submit it as soon as possible.

Campus Dining Facilities

Dining facilities for residential students are provided in the Pat Case Dining Center and meals-to-go in the Food Court of the Allen Chapman Student Union. Meal plans are required for all residence hall students and second-year students residing in apartments. Dining plans are available to all students, even those not residing in University housing. A la carte facilities are available in the Allen Chapman Student Union, McFarlin Library and the Collins Fitness Center.

Housing and Dining Application and Policy Information

Students living in the residence halls or apartments are subject to the terms and conditions of the *Campus Living* booklet, the *Student Handbook*, the *Undergraduate Bulletin*, the *Graduate Bulletin* and the Housing and Dining Services application/license. The housing and dining application/license extends for the entire academic year. Students may also license for the summer period. If a student signs an application/license, the student agrees to use said services for the duration of the license period unless he or she either graduates in December or participates in a study abroad program. If a resident desires to arrive prior to or remain past the selected license period, a request must be made in writing and approved by the Office of Housing and Dining. Additional charges will be assessed to the student's account. The same rules apply to the dining portion of the agreement. Requests for release from the Housing and Dining License must be submitted in writing to the Housing and Dining Services office and must include appropriate documentation. The decision as to the release will be at the University's sole discretion. The University may suspend participation in dining programs or remove students from housing for failure to pay charges when due or if student conduct problems arise. Review the Housing and Dining License Terms and Conditions for more detailed information.

A one-time housing reservation fee/deposit must accompany each application. The amount is specified on page 33 in the Tuition and Fees section of this *Bulletin*. In accordance with student recommendations, the total deposit is held on account until graduation or final departure from the University.

Dining service agreements provide a variety of options and tremendous flexibility in support of student schedules. The dining service agreement provides food from the published beginning date of the dining program, usually in conjunction with the beginning of undergraduate classes, to the last day of undergraduate exams for the semester. The agreement does not include meals during the summer term, holidays, or vacation periods.

Applications and additional information on housing and dining services may be obtained from the Office of Housing and Dining Services in Fisher Hall, 918-631-2516.

Following are the cost schedules for the residence halls, apartments and dining for the 2014-2015 academic year. Prices are subject to change without notice.

2014-2015 Campus Housing Options

Residence Halls

William Fisher South Hall. Rates per person. Each student will be assessed a non-refundable Residence Hall Association fee per semester. The amount is specified in the Tuition and Fees section of this *Bulletin* on page 33.

	Semester	Academic Year
Double Room	\$2,900.00	\$5,800.00

West Suites, including Honors Suites. Rates per person. Each student will be assessed a non-refundable Residence Hall Association fee per semester. The amount is specified in the Tuition and Fees section of this *Bulletin* on page 33.

	Semester	Academic Year
Double Room	\$3,071.00	\$6,142.00
Standard Single	\$3,447.00	\$6,894.00

John Mabee and Lottie Jane Halls. Rates per person. Each student will be assessed a non-refundable Residence Hall Association fee per semester. The amount is specified in the Tuition and Fees section of this *Bulletin* on page 33.

	Semester	Academic Year
Double Room	\$2,900.00	\$5,800.00
Triple Room	\$2,081.00	\$4,162.00
Single Room	\$3,314.00	\$6,628.00
Double Suite Room (John Mabee Hall only)	\$3,314.00	\$6,628.00
Triple Suite Room	\$2,376.00	\$4,752.00

5th Place House. Rates per person. No meal plan required for 3rd year and above students. No RHA fee assessed.

	Semester	Academic Year
Double Room	\$2,900.00	\$5,800.00

LaFortune House (International Living Community). Rates per person. No meal plan required for 3rd year and above students. No RHA fee assessed.

	Semester	Academic Year
Double Room	\$3,071.00	\$6,142.00
Triple Room	\$2,376.00	\$4,752.00

7th Street House (International Living Community). Rates per person. No meal plan required for 3rd year and above students. No RHA fee assessed.

	Semester	Academic Year
Double Room	\$2,900.00	\$5,800.00

Apartments

University Apartments are available for upper class undergraduate students and graduate, law, married, and nontraditional students. Undergraduate apartment offerings include one-, two-, and three-bedroom, market-quality apartments in six different villages (Mayo Village, Lorton Village, Brown Villages, University Square South, University Square West, and West Park). Law/graduate offerings include one- and two-bedroom units in Norman Village.

Rent payments are due the first day of each semester and are payable at the Bursar’s Office in McClure Hall. The approximate lease period for academic year 2014-2015 is August 22, 2014 – May 10, 2015, depending on date of availability. Summer and/or academic year arrangements are available. Charges are for the entire application/license period selected and are assessed by semester. Prices are based on the published academic calendar of classes and are subject to change without notice. Graduate and law calendars that exceed the parameters of the undergraduate calendar result in additional charges based on the actual length of stay. Students who plan to arrive earlier or stay later than the designated opening or closing dates should submit their request online at the TU Student Housing website www.utulsa.edu/housing, preferably 30 days in advance. (If accepted later, submit such requests as soon as possible.) Daily pricing in apartments varies depending on apartment type. Call 918-631-2516 for daily rates for a specific unit.

Apartment rental rates vary by complex, and are available online at www.utulsa.edu/housing. Rental rates are divided approximately evenly among residents up to one person per bedroom. For non-family members, rent charges increase if the number of occupants exceeds the number of bedrooms. Students are responsible for electric utility costs through AEP/PSO and arrangements for electric utility service for all apartments must be completed prior to receipt of key and check-in. Full-size washer/dryer units are included in each apartment. Expanded basic cable television and wired and wireless access to the campus computer network included in the semester rental rate. Telephone and premium cable television services are available through Cox Communications at 918-806-6000.

Norman Village, University Square South and West Village Apartments (includes the law/graduate and “intensive study” area only). Rates per person/per semester.

	1 Occupant	2 Occupants	3 Occupants	4 Occupants
One Bedroom	\$4,178.00	\$2,737.00	N/A	N/A
Two Bedroom	\$5,824.00	\$2,915.00	\$2,692.00	\$2,578.00
Three Bedroom	\$7,866.00	\$3,938.00	\$2,624.00	\$2,477.00

Mayo, Lorton, and Brown Village Apartments. Rates per person/per semester.

	1 Occupant	2 Occupants	3 Occupants	4 Occupants
One Bedroom	\$4,375.00	\$2,867.00	N/A	N/A
Two Bedroom	\$6,102.00	\$3,052.00	\$2,821.00	\$2,705.00

Lorton Village Townhouses. Rates per person/per semester.

	1 Occupant	2 Occupants	3 Occupants	4 Occupants
One Bedroom	\$4,488.00	\$2,938.00	N/A	N/A
Two Bedroom	\$6,254.00	\$3,128.00	\$2,892.00	\$2,771.00

West Park. Off campus at East 4th Street and South Lewis Avenue. Rates per person/per semester.

	1 Occupant	2 Occupants	3 Occupants	4 Occupants
One Bedroom	\$3,608.00	\$2,364.00	N/A	N/A
Two Bedroom	\$4,658.00	\$2,329.00	\$2,153.00	\$2,064.00

2014-15 Dining Options

	Semester Academic Year	
Meal Plans		
21 meals/week, 400 Dining Dollars, 50 Game Day Dollars	\$2,950.00	\$5,900.00
17 meals/week, 225 Dining Dollars, 50 Game Day Dollars	\$2,313.00	\$4,626.00
12 meals/week, 400 Dining Dollars, 50 Game Day Dollars	\$2,183.00	\$4,366.00
10 meals/week, 650 Dining Dollars, 50 Game Day Dollars	\$2,527.00	\$5,054.00
8 meals/week, 375 Dining Dollars, 50 Game Day Dollars	\$2,527.00	\$5,054.00
165 meals/semester, 500 Dining Dollars, 50 Game Day Dollars	\$2,664.00	\$5,328.00
Third Year Residency Plan		
110 meals/semester, 250 Dining Dollars	\$1,733.00	\$3,466.00
80 meals/semester, 300 Dining Dollars	\$1,471.00	\$2,942.00
45 meals/semester, 650 Dining Dollars	\$1,400.00	\$2,800.00

Meal plans are required for all first- and second-year residents and all students residing in the residence halls. Meals are served in the main dining hall. Dining Dollars may be used in multiple locations on campus, including Allen Chapman Student Union eateries, the Collins Fitness Center, and snack and beverage vending machines. Game Day Dollars may be used at Sodexo-run concession stands at athletic events on campus. Dining Dollars and Game Day Dollars are nonrefundable. All Dining Dollars and Game Day Dollars must be used during the academic year for which they were purchased as they do not transfer to the following academic year.

Summer Term Housing and Dining

Housing locations and rates for summer term sessions will be determined and published during the spring semester. Payment in full is due prior to check-in, and charges are calculated until a student officially checks out and turns in appropriate keys. Meal plans are not offered during the summer. Students are encouraged to deposit money on their Hurricane Gold accounts to use at their convenience in facilities operating during the summer months.

Student Financial Services

General Information

To make high-quality private higher education accessible to all qualified students, The University of Tulsa offers financial assistance in the form of scholarships, grants, loans, and part-time employment.

Financial Need Determination

The Office of Student Financial Services uses the need analysis from the Free Application for Federal Student Aid (FAFSA) to determine financial need. Students must submit the FAFSA directly to the Department of Education. All information contained in these credentials is held in strict confidence. Financial records are protected in accordance with the Family Education Rights and Privacy Act of 1974, as amended.

Financial need represents the difference between the cost of attending the University and the amount that the student and the student's family are expected to contribute toward the educational costs. The Office of Student Financial Services carefully considers the size of the family and its income, resources, and obligations in making an assessment of the family's contribution.

The factors considered in determining the types and amounts of aid received by an applicant are: (1) the availability of funds; (2) the student's analyzed financial need; and (3) the student's classification and record of academic performance.

For Best Consideration

Applications are available in January for the following academic year. The FAFSA should be completed by March 1 for students to receive full consideration for all assistance available.

Financial Aid Packaging

Packages of aid may consist of a combination of scholarship, grant, loan, and employment. This aid packaging concept enables the University to make more funds available to a larger number of applicants. The FAFSA form is recommended for consideration of grants, loans, and part-time employment opportunities. Timely submission of the FAFSA and all requested information is required to receive the largest award possible. Recipients of federal aid must reapply each year to be considered for continuation in the following year. Scholarship recipients will receive renewals based on the criteria of the particular award.

The University of Tulsa reserves the right to reduce or rescind award packages if federal allocations to the University are insufficient to cover expenditures.

Academic Requirements

All students who receive financial assistance must demonstrate the ability to do satisfactory college work. High academic performance is usually required for scholarship consideration.

There are minimum academic course-load requirements for the various types of financial assistance available through the Office of Student Financial Services. Students must be full-time students to be considered for University-funded financial aid. Full-time enrollment is defined on page 24 of this *Bulletin*. Enrollment in audit classes does not count toward eligibility for financial assistance.

Students receiving financial aid who reduce their course loads below the required minimums after enrollment must inform the Office of Student Financial Services, which may cancel awards at any time if students fail to maintain satisfactory academic progress or minimum course-load requirements.

Students receiving University grants or University funds are required to maintain at least a 2.0 cumulative grade point average. Scholarship grade point requirements vary according to the type of scholarship. Inquiry should be made in the Office of Student Financial Services as to the exact qualifications.

Transient students and those who attend summer term only are ineligible for financial aid. All aid recipients must be admitted as regular students pursuing a degree program.

Eligibility for continued financial assistance depends upon maintaining “satisfactory academic progress” and “good standing.” Students who do not meet satisfactory progress and good-standing criteria may not be eligible for federal financial assistance for the next academic period. If extenuating circumstances interfere or prevent students from meeting these requirements, they should contact the Office of Student Financial Services immediately.

Satisfactory Academic Progress (SAP)

Federal regulations require that all recipients of student financial assistance make satisfactory academic progress toward a degree or eligible certificate. Students applying for assistance through the Federal Pell Grant, Federal SEOG, Federal Work Study, TEACH Grant, Oklahoma Tuition Aid Grant (OTAG), Oklahoma Tuition Equalization Grant (OTEG), Oklahoma’s Promise (OHLAP), Federal Perkins Loan, Direct Subsidized Stafford Loan, Direct Unsubsidized Stafford Loan, and Direct Parent PLUS Loan must meet the following three requirements to maintain their financial aid eligibility at The University of Tulsa.

- **QUALITATIVE:** Students are required to maintain a minimum cumulative grade point average.
- **QUANTITATIVE:** Students are required to complete (pass) a minimum of 67% of hours attempted.
- **MAXIMUM TIME FRAME:** Students must complete their degree in a timely manner.

Satisfactory academic progress is reviewed at the end of each semester once grades have been posted to the academic transcript. Failure to meet each of these minimum academic standards will result in the loss of federal financial aid eligibility. Students are expected to know when they may be placed on Financial Aid Warning, Financial Aid Suspension or Financial Aid Probation based on the complete Satisfactory Academic Progress Policy that may be found on The University of Tulsa Financial Aid website <http://www.utulsa.edu/admission-and-financial-aid/undergraduate-financial-aid/financial-aid-policies/satisfactory-academic-progress.aspx>.

Qualitative Grade Point Average. Undergraduate and law students are required to maintain a minimum cumulative grade point average of 2.00 on all hours attempted from all institutions to remain eligible for federal financial aid. Graduate students are required to maintain a minimum cumulative grade point average of 3.00 on all hours attempted from all institutions.

Quantitative (Pace) Satisfactory Completion of Semester Hours. Undergraduate, graduate, and law students are required to complete (pass) a minimum of 67% of all hours attempted to remain eligible for federal financial aid. Pace is calculated as the total number of credit hours successfully completed divided by the total number of credit hours attempted. Grades of A, B, C, D, F, P, I, MG, and W are all considered attempted hours. All transfer and repeat hours are included in this calculation, as well as all courses dropped within the first three weeks of the semester.

Maximum Time Frame for Degree Completion. Students must complete their degree within 150% of the published length in credit hours of their degree program to remain eligible for federal financial aid. Hour limits are cumulative; therefore, all accepted hours from all institutions attempted will be included, even if a student did not receive federal student aid. For financial aid purposes, grades of A, B, C, D, F, P, I, MG, and W are all considered attempted hours. All transfer and repeat hours are included in this calculation, as well as all courses dropped within the first three weeks of the semester. The Student Financial Aid office recommends that students contact their academic advisor to ensure they are taking the courses necessary to complete their degree.

Extension of Eligibility. If extenuating circumstances prevent satisfactory academic progress, a student may request an extension of eligibility by submitting a petition to the Student Financial Services Office. Petitions for federal financial aid reinstatement should be received no later than the first day of class in the semester the extension will take effect.

Repeated Coursework

Students may receive federal financial aid consideration to repeat a previously passed course once. Students may repeat failed courses until they have attained a passing grade. An “incomplete” grade (I) that remains on the academic record at the time satisfactory academic progress is reviewed will be treated as not completed, but the attempted hours will be counted. Upon completion of the incomplete (I) course, the grade and course will be given due credit in future consideration.

Special Circumstances

Summer Course Work. Summer credits earned either at TU or transferable from another institution into the student’s program may be used to meet the credit hours earned requirement. Grades do not transfer.

Transfer Students. Students transferring to TU will have credits evaluated and accepted into their program used to position them in the satisfactory academic progress components. Grades do not transfer.

University of Tulsa Grants/Scholarships. Students receiving financial aid from the resources of The University of Tulsa must maintain a 2.0 cumulative grade point average for grant aid. Students receiving athletic or performance scholarships must meet the eligibility requirements of the respective programs.

Other Information

Financial Aid Disbursements. Financial aid is disbursed through The University of Tulsa Bursar's Office. One disbursement will be made at the beginning of each semester.

Employment Projections. Employment projections for TU graduates may be reviewed in the Office of Career Services. Local employment information and beginning salary levels for University of Tulsa graduates are also available in the Office of Career Services.

Campus Security Reports. Campus security policies and campus crime statistics are available in the Campus Security Office.

Default Rates and Indebtedness Reports. Student loan default rates and average indebtedness statistics are available in the Office of Student Financial Services.

Completion and Graduation Rates. Completion and graduation rates for TU students are available in the Office of Admission. Completion rates for student athletes are also available.

Study Abroad. Federal financial aid and TU scholarships are portable on approved study abroad programs. A number of merit-based and need-based study abroad scholarships are available through program providers as well as U.S. government-sponsored sources. Pell Grant recipients are eligible to apply for the Benjamin A. Gilman International Scholarship for study abroad. Students are encouraged to apply for any scholarship that supports their desire to study abroad. For more information, contact the Center for Global Education (CGE) at 918-631-3229 or visit www.utulsa.edu/globaleducation.

Drug and Alcohol Abuse Prevention. Information concerning prevention of drug and alcohol abuse is available through the Office of the Dean of Students.

Refund Policy. The refund and repayment policy for students receiving Title IV federal funds is listed in this *Bulletin* and is available online at <https://quest.utulsa.edu/Controllers/Tuition%20Refund%20Policy.pdf> and from the Office of Student Financial Services. Sample refund/repayment examples are available for review in the Office of Student Financial Services.

FAFSA Verification

Students whose FAFSA's are selected for verification by the federal government must complete a verification worksheet and submit the required federal tax transcripts. Additional documentation may also be required.

Effective for the 2013-2014 award year, the federal government implemented changes to the verification regulations. The standard list of required verification data items has been replaced with customized verification selection criteria that will be published annually by the Department of Education. The Office of Student Financial Services will request the required verification document(s) from the applicant upon receipt of the FAFSA.

TU does not disburse awards for students who are selected for verification until the process is complete. Failing to complete verification by the deadlines will result in loss of any eligibility for federal aid funds. If a student completely withdraws prior to submitting the documents for verification, federal aid will not be considered.

Students who are eligible for federal funds must complete verification prior to the last day of enrollment for 2014-2015 award year or approximately **September 22, 2015**, whichever is earlier. In addition, a valid EFC must be received by TU before the last day of enrollment. Direct loan applications must be certified by the Office of Student Financial Services prior to the last day of enrollment to receive loan funds. Please contact the Office of Student Financial Services with questions concerning verification and the required documents.

Application Procedure

Students must be admitted to the University before final consideration for financial aid is possible. However, applications for admission and financial aid may be submitted and processed simultaneously. Students applying for financial assistance through the Office of Student Financial Services are required to complete the Free Application for Federal Student Aid (FAFSA) online at www.fafsa.ed.gov. Assistance in applying online is available from the Office of Student Financial Services.

The FAFSA is used as the University's application for consideration of most sources of financial assistance. It serves as the student's financial aid application for the Federal Pell Grant program, TEACH Grant, OTAG program, OTEG (Oklahoma Tuition Equalization Grant), Federal Supplemental Educational Opportunity Grant (SEOG), Federal Perkins Loan, and Federal Work-Study program, as well as documentation of eligibility for any federal loan program. Detailed instructions are included with the FAFSA. An acknowledgement report will be sent when a student's FAFSA has been processed.

Students must reapply annually for financial assistance. After initial application using the FAFSA, students are sent a Renewal Free Application for Federal Student Aid the following year if they meet certain conditions. The Renewal FAFSA is emailed in January to the address listed on the student's previous FAFSA. It allows students to answer fewer questions if information reported in the previous year is still correct. Either the FAFSA or the Renewal FAFSA may be used to apply for financial assistance.

Grants

Federal Pell Grant

- **Awards:** \$605 to \$5,645 per year as of date of publication. Subject to change annually.
- **Eligibility:** Determined on the basis of need analysis by the Federal Pell Grant Program division of the U.S. Office of Education. Available only to undergraduates who have not completed a first bachelor's degree. Beginning with the 2012-2013 FAFSA, all students who are Pell Grant recipients (including students who have previously received the Federal Pell Grant) have a limit of 12 full time equivalent semesters. An undergraduate student may receive a Federal Pell Grant award up to 600% during their educational career. After 12 full-time equivalent semesters, eligibility ends. Students may check their used eligibility at <http://www.nslds.ed.gov>.
- **Application Procedure:** Complete the FAFSA. List The University of Tulsa (code number 003185) as a college to receive information.

Federal Supplemental Educational Opportunity Grant (FSEOG)

- **Awards:** \$100 to \$4,000 per year.
- **Eligibility:** Determined on the basis of need analysis by the Office of Student Financial Services. Available only to undergraduates who have not completed a bachelor's degree. Funding limited; most awards range from \$100 to \$1,000 per year and are awarded to Pell Grant recipients only.
- **Application Procedure:** Complete the FAFSA.

TEACH Grant (TEACH)

- **Awards:** Up to \$4,000 per year for full time enrollment. Effective 2013-2014, Congress passed the Budget Control Act (BCA) of 2011, which put into place an automatic federal budget cut known as the sequester. All disbursements of TEACH awards made on or after March 2, 2013, must be reduced by 7.1% from the award amount the student would otherwise be eligible to receive. For example, if a student would otherwise be eligible to receive \$4,000, the award would be reduced by \$284, resulting in an award of \$3,716.
- **Eligibility:** Undergraduate or graduate students enrolled in a post-baccalaureate teacher credential program, or current or prospective teachers. An applicant who is enrolled as an undergraduate student may qualify if he or she has a 3.25 grade point average. If the student is in their first year of college, the grade point average standard applies to the student's cumulative high school record. Alternatively, an applicant qualifies if he or she scores above the 75th percentile on at least one of the batteries in an undergraduate, post-baccalaureate or graduate school admissions test. The student must be completing the coursework or requirements necessary to begin a career in teaching. To receive a TEACH Grant, a teacher candidate must agree to:
 - Serve as a full-time teacher for a total of not less than four academic years within eight years of completing his or her course of study;
 - Comply with the requirements for being a highly qualified teacher as defined in section 9101 of the Elementary and Secondary Education Act;
 - Teach at a public or private non-profit elementary or secondary school that is eligible for assistance under Title I of the Elementary and Secondary Education Act, as provided in section 465 (a) (2) (A) of the HEA;
 - Teach in any of the following fields: mathematics, science, a foreign language, bilingual education, special education, as a reading specialist, or in another field designated as high need by the Federal Government, State Government or local educational agency and approved by the Secretary;
 - Provide evidence of required employment after each year of service in the form of a certification by the chief administrative officer of the school; and
 - If the candidate fails or refuses to carry out his or her service obligation, repay as a loan the total amount of TEACH Grants received plus interest.
- **Application Procedure:** Complete the FAFSA.

Oklahoma Tuition Aid Grant (OTAG)

- **Awards:** Amount of award determined by the Oklahoma State Regents for Higher Education. Range is from \$50 to \$1,300 per year.
- **Eligibility:** Determined on the basis of need analysis by the Oklahoma State Regents. Student must be a legal resident of Oklahoma according to the State Regent's policy. The FAFSA must be received in the Student Financial Services office by March 1 for best consideration.
- **Application Procedure:** Complete the FAFSA and give the U.S. Department of Education permission to send the information from the FAFSA to the state agency.

University of Tulsa Grant

- **Awards:** Amount of award determined on the basis of need analysis by the Office of Student Financial Services and by availability of general funds budgeted each year with approval of The University of Tulsa Board of Trustees.
- **Eligibility:** Determined on the basis of need analysis. Must be full-time student and maintain at least a 2.0 cumulative grade point average.
- **Application Procedure:** Complete the FAFSA and the TU Application for Financial Aid.

University of Tulsa Alumni Grant

- **Awards:** \$2,000 per year if available general funds are budgeted each year with approval of The University of Tulsa Board of Trustees.
- **Eligibility:** Entering freshmen and transfer students who have one or both parents with a degree from TU. Must be full-time student and maintain at least a 2.0 cumulative grade point average. Award may be honorary if a student's scholarship award exceeds maximum scholarship amount.
- **Application Procedure:** No additional application form is necessary.

Loans

Federal Perkins Loan

- **Awards:** Up to \$5,500 per year for an undergraduate; amount is determined by need analysis. Undergraduate indebtedness may not exceed \$27,500 during all undergraduate years.
- **Eligibility:** Determined on the basis of need analysis by the Office of Student Financial Services as funding permits. Limited funding is available.
- **Application Procedure:** Complete the FAFSA and Perkins Entrance Counseling, which are submitted electronically. Visit <http://www.utulsa.edu/admission-and-financial-aid/undergraduate-financial-aid/Loan-Information/perkins-loans.aspx> for procedures for applying for Perkins Loans.
- **Interest and Repayment:** The interest rate is 5 percent simple interest, beginning nine months after the student ceases to be at least a half-time student. There is no interest while the student is enrolled at least half time. Repayment begins nine

months after the student ceases to be enrolled at least half-time and the minimum monthly payment is \$50. The loan must be repaid within 10 years from the date payments begin.

Direct Stafford Loan: Subsidized and Unsubsidized

- **Awards:** Loan amounts may not exceed reasonable college costs, less other scholarship, loan, and gift assistance. Expected family contribution is also used in determining eligibility for the subsidized Stafford Loan. Annual maximum for a dependent undergraduate (subsidized and/or unsubsidized) Stafford Loan is \$5,500 (maximum \$3,500 subsidized) for freshmen, \$6,500 (maximum \$4,500 subsidized) for sophomores and \$7,500 (maximum \$5,500 subsidized) for juniors and seniors. Independent undergraduates may borrow up to \$9,500 (\$3,500 maximum subsidized) as a freshmen, \$10,500 as a sophomore (maximum \$4,500 subsidized) and \$12,500 (maximum \$5,500 subsidized) as a junior and senior. The total Direct Stafford Loan debt a student may have outstanding as a dependent undergraduate is \$23,000 subsidized and \$31,000 combined subsidized and unsubsidized; as an independent undergraduate, \$23,000 subsidized and \$57,500 combined subsidized and unsubsidized. A processing fee will be deducted from the loan proceeds.
- **Eligibility:** Subsidized Stafford is determined on the basis of need analysis by the Office of Student Financial Services.
- **Application Procedure:** Complete the FAFSA. Visit
- <http://www.utulsa.edu/admission-and-financial-aid/undergraduate-financial-aid/Loan-Information/current-loan-news.aspx> for procedures for applying for Stafford Loans.
- **Interest and Repayment:** The federal government pays the interest on a subsidized Stafford loan while the student is in school or in deferment. Borrowers are responsible for the interest during in-school and deferment periods on an unsubsidized Stafford loan. Interest may accumulate until the deferment ends, but the interest will be added to the principal. The current interest rate for undergraduate Stafford loans is 6.8%. The entire loan must be repaid within 10 years after repayment begins. If the borrower's first Stafford loan was disbursed on or after July 1, 1993, the borrower has the option of repaying the loan using a standard, graduated or income-sensitive repayment plan. As a result of the automatic federal budget cuts, known as the "sequester," additional funding reductions will take affect for all Direct Loans. The sequester increases the origination fees paid by borrowers for Direct Loans where the first disbursement is made on or after December 1, 2013. This includes loans that will be made for the remainder of 2013-14 and summer 2014. For Direct Subsidized or Unsubsidized loans, the loan fee will increase from 1.051 percent of the principal amount of a loan to 1.072 percent.

Direct Federal Parent Loan for Undergraduate Students (PLUS)

- **Awards:** Parents may borrow up to the full cost of education less other financial assistance, dependent on credit worthiness. Total financial assistance including PLUS funds may not exceed reasonable college costs. There is no limit on total parent loan indebtedness. Each student enrolled in a degree program is eligible for financial assistance for a maximum number of hours specific to the completion of

the degree. A processing fee will be deducted from the loan proceeds by the lender.

- **Eligibility:** Parents of dependent undergraduate students who pass credit check.
- **Application Procedure:** Apply online with the Department of Education. Authorization for a credit check will be necessary. A FAFSA must be filed on behalf of the student listing TU's school code (003185) before TU can determine eligibility for this loan program. Only a parent or a stepparent whose income was supplied on the FAFSA may apply for this loan. Visit <http://www.utulsa.edu/admission-and-financial-aid/undergraduate-financial-aid/Loan-Information/plus-loans.aspx> for procedures for applying for PLUS Loans.
- **Interest and Repayment:** PLUS loans have a fixed interest rate of 6.41%. PLUS loans will have a fee of 4.204% deducted from each disbursement on or before November 30, 2013, or 4.288% on or after December 1, 2013. Interest will begin accruing at the time of disbursement. Repayment on a PLUS loan begins once the loan is fully disbursed. The first payment is due 60 days after the final disbursement. A parent may choose to defer repayment while the student for whom the parent borrowed is enrolled at least half-time. Repayment will begin six months after the student ceases at least half-time enrollment. Visit <http://studentloans.gov> for repayment plans.

Employment

Federal Work-Study Program (FWS)

- **Awards:** Amount is determined by need analysis.
- **Eligibility:** Determined on the basis of need analysis done by the Office of Student Financial Services.
- **Application Procedure:** Complete the FAFSA.
- **Other Information:** Students are employed in academic or administrative offices on campus. Additional off-campus positions are available in community service agencies. Each year the off-campus agencies contract with the University to hire FWS students. The listing of agencies is available in the Office of Student Financial Services. Additionally, the Office of Student Financial Services maintains the available positions on the web at <http://www.utulsa.edu/admission-and-financial-aid/undergraduate-financial-aid/student-employment.aspx>.

Part-time Work for Students Not Receiving Aid

The Office of Housing, the Office of Dining Services, and Collins Fitness Center often have part-time work available to students not on the Federal Work-Study Program. Apply at respective offices. Other departments such as the libraries, KWGS radio station and Allen Chapman Student Union may have work available to students. Check the listings for Institutional Positions at <http://www.utulsa.edu/admission-and-financial-aid/undergraduate-financial-aid/student-employment.aspx>.

Scholarships

University Scholarship

- **Awards:** Dollar amount varies, based on merit.
- **Eligibility:** Determined on the basis of high school record, previous college grade point averages, and standardized test scores. Students must maintain a minimum 3.00 cumulative grade point average (depending on the specific scholarship) and full-time status. Limited to eight semesters. Except for Presidential Scholars, all scholarship awards combined for a student may not exceed full tuition. The University reserves the right to include outside scholarship sources in determining full tuition awards.
- **Application Procedure:** Entering freshmen and transfers are selected based upon review of their academic credentials by the Office of Admission.

Presidential Scholarship

- **Awards:** Up to full tuition and basic room and board for four years. “Basic room and board” is defined as the cost of double occupancy in on-campus residence halls with a 19-meal per week plan.
- **Eligibility:** This scholarship is reserved for The University of Tulsa’s highest academic students applying as entering freshmen. Students must maintain a 3.25 cumulative grade point average and full-time status. Limited to eight semesters. All

scholarship awards combined for a student may not exceed full tuition, basic room and board. Oklahoma Academic Scholars award will be used in determining full tuition. The University reserves the right to include outside scholarship sources in determining full tuition awards.

- **Application Procedure:** Appropriate scholarship materials must be completed by entering freshmen, and the Oklahoma Academic Scholarship application must also be completed. A limited number are chosen annually.

Honors Program Scholarship

- **Awards:** \$1,000 per year.
- **Eligibility:** Determined on the basis of exceptional high school record, grade point averages, standardized test scores. Participation in Honors Program coursework is mandatory. Students must maintain a 3.00 cumulative grade point average and full-time status. Limited to eight semesters. All scholarship awards combined for a student may not exceed the maximum scholarship amount. The University reserves the right to include outside scholarship sources in determining full tuition awards.
- **Application Procedure:** Entering freshmen complete an Honors Program application form.

Performance (music, theatre, musical theatre) Scholarship

- **Awards:** Range up to full tuition.
- **Eligibility:** Determined on the basis of demonstrated talent in the selected area.
- **Application Procedure:** Consult the faculty chair of the discipline being considered for an audition or evaluation of performance.

Athletic Scholarship

- **Awards:** Range up to full tuition, fees, room, board, and books.
- **Eligibility:** Determined on the basis of demonstrated performance in the selected sport.
- **Application Procedure:** Contact The University of Tulsa Director of Athletics.

Information regarding federal financial aid programs is accurate at the time of publication, but subject to congressional change without notice. All federal aid programs require U.S. citizenship or permanent resident status. Scholarship policies are reviewed annually and are subject to change from year to year.

Air Force ROTC Scholarship

See Air Force ROTC paragraph on page 22 of this *Bulletin*.

Transfer Student Scholarship

Transfer students are eligible to receive consideration for University scholarships. Members of Phi Theta Kappa may be considered for the Phi Theta Kappa Scholarship. Inquire with the Office of Admission for additional information.

Academic Resources

McFarlin Library

McFarlin Library, named in honor of the original donors, Mr. and Mrs. Robert McFarlin, serves as the academic heart of the University. The library homepage may be found at www.lib.utulsa.edu. Undergraduates at The University of Tulsa have direct access to the library's holdings of more than three million items that include more than 47,000 electronic journals and over 120,000 electronic books. The library collection also includes digitized University of Tulsa dissertations and archival materials, and extensive collections of electronic reference sources and databases, as well as print resources such as books, serials, government documents, microform and maps. The library's world-class Special Collections are available for undergraduate research and include extensive collections of manuscripts, historical archives, art objects, photographs and memorabilia in range of subjects that include Modernist literature, Native American history and the American West.

Tulsa Undergraduate Research Challenge

The Tulsa Undergraduate Research Challenge (TURC) program allows students to engage in significant research projects with faculty mentors in the Henry Kendall College of Arts and Sciences, the Collins College of Business, and the College of Engineering and Natural Sciences. Student research opportunities are available throughout the pursuit of any degree and regardless of the form the pursuit of scholarship may take. Admission to TURC is competitive, and each college has its own admission process. For more information on TURC, visit www.utulsa.edu/turc.aspx.

Office of Research and Sponsored Programs

The Office of Research and Sponsored Programs (ORSP) is responsible for the administration of all research and sponsored program activity. Faculty, students, and staff at The University of Tulsa engage in a wide variety of research activities, participating in both externally-funded and University-funded scholarship. ORSP helps identify sources of support, provides information on program guidelines and procedures, assists in proposal development, administers grants and contracts, and funds student research grants. Visit the ORSP website at www.utulsa.edu/research/Office-of-Research-and-Sponsored-Programs.aspx for more information. TU receives funding from various sources including private foundations, industry, and federal and state agencies.

As a federally funded research institution, TU must comply with federal regulations regarding the conduct of research. For example, any research project involving human subjects must be submitted to ORSP for approval by the Institutional Review Board (IRB). When animals are to be used in research, prior approval must be obtained from the Institutional Animal Care and Use Committee (IACUC). A listing of many of these compliance issues may be found at the ORSP website.

The purpose of ORSP is to facilitate student interactions with our office and other administrative offices and to encourage students to further their scholarly pursuits at the University.

Information Technology

The Information Technology (IT) department provides all students and faculty with an individual network account that gives access to such services as high speed internet, the wireless network, an intranet space called Campus Connection, email, on-campus file storage, and off-site collaborative file storage. Residential students have access to both wired and wireless connectivity in University-owned apartments and residence halls. For a complete overview of IT supported services at the University, visit the IT website at <http://www.utulsa.edu/it>.

IT maintains computer labs at the Pauline M. Walter Academic Technology Center located in McFarlin Library. These labs are open 24 hours a day while classes are in session. The labs support an extensive array of software to facilitate teaching, learning, and research as well as high speed printers. The University of Tulsa also maintains numerous specialized teaching labs located across the campus.

For admitted and enrolled students, information technology help may be obtained by logging into the Campus Connection at <https://cc.utulsa.edu>. The IT Help Desk is located within the McFarlin Library and is open Monday through Friday 8 a.m. to 5 p.m.

Graduate Programs

Through its Graduate School, The University of Tulsa offers over 35 master's and doctoral programs in a variety of disciplines in the arts, humanities, business, sciences, and engineering, and cooperates with the College of Law in offering several joint J.D./master's degrees. Combined bachelor's/master's degree programs are available in select academic programs. These combined degree programs offer undergraduates the opportunity to begin taking graduate courses while finishing an undergraduate degree and completing a master's degree in as little as one year of study beyond the bachelor's degree. The University's graduate programs, which enroll more than 800 students, are described in the *Graduate Bulletin*.

Although graduate work is not offered in every discipline, graduate education at The University of Tulsa strengthens the undergraduate mission in several ways. It enables the University to recruit and retain faculty with distinguished records of scholarship. All members of the graduate faculty teach undergraduates and participate in undergraduate curriculum design. Graduate assistants help provide a research environment that allows the faculty to go forward with their scholarship and often to include undergraduates in selected research projects. Graduate teaching assistants enable the University to offer many small, high quality courses across campus. Graduate assistants in the Writing Center, the Mathematics Lab, and other areas provide undergraduates with individualized tutorial assistance. Finally, the presence of graduate programs compels greater breadth and depth of the library resources, computer facilities, and scientific instrumentation used by undergraduates.

Lifelong Learning

The Division of Lifelong Learning at The University of Tulsa serves as the academic outreach for University programs that represent each college. TU's Lifelong Learning professionals recognize that the information individuals need to prosper increases every day and that continuing education at any age is an investment in the future. Professional development courses and non-credit courses in the arts, humanities, sciences, and professional development are offered.

Operating as three separate units within each college and as a stand-alone unit of the University, Lifelong Learning serves a world-wide market through the provision of non-credit public and customized in-company seminars, workshops, short courses, conferences, and professional certificate programs. Many courses meet the mandatory continuing education requirements of professional licensing and certification boards. Through the division's unabridged education program, individuals may attend selected courses for personal enrichment at a greatly reduced cost.

The Division of Lifelong Learning hosts several professional post-baccalaureate certificate programs, including the only post-baccalaureate American Bar Association-approved paralegal program in northeast Oklahoma. For additional information regarding any of our programs, call 918-631-2070. For business programs, call the Center for Executive and Professional Development (CEPD) at 918-631-2215. For science and engineering programs, call Continuing Science and Engineering (CESE) at 918-631-3088. For the Unabridged Education, Life Enrichment, and Certificate Programs, contact the Office of Lifelong Learning at 918-361-2070.

University School

The University School at The University of Tulsa was established to offer the city of Tulsa and the state of Oklahoma leadership and service in the field of gifted education. The mission of the school is to serve as a national model of excellence in pre-college education for students with high academic potential. A by-product of this service and leadership has been local, national, and international recognition for The University of Tulsa. Paralleling the goals of The University of Tulsa to provide excellence in education for academically able adults, the University School serves as a model of excellence in education for academically able children. In 2014, the University School was designated a Confucius Classroom for its exemplary Chinese language program. The University of Tulsa provides University School as a service to the community to demonstrate the high value it places on academic excellence and to provide an alternative educational option for gifted children.

Advising and Support

Academic Advising and Support Services

The numerous academic options offered by The University of Tulsa, combined with the flexibility to design a personalized program, require careful guidance of students from the first year through preparation for graduation. This guidance is provided by the University's academic advising system, described on page 23 in the Academic Practices and Policies section of this *Bulletin*.

Beyond the formal advising structures, however, all students are encouraged to make full use of the academic resources of the University and to seek advice from members of the faculty on specific academic issues in areas of particular interest to them.

Center for Student Academic Support. The Center serves as an initial reference point for students who need academic assistance, tutoring, and other kinds of help. Faculty members are encouraged to send students with such problems directly to the Center, where their situations are evaluated and appropriate assistance is given. Center personnel are trained to detect and deal with problems that place students at risk. They also coordinate campus tutoring efforts and act as a liaison with other student services, both academic and personal, on students' behalf.

Services for Persons with Disabilities. Information concerning special services and facilities for students with disabilities in need of accommodation may be obtained from the Center for Student Academic Support (CSAS). A copy of the 504/ADA Policy for Students with Disabilities may be obtained from the CSAS website at <http://www.utulsa.edu/student-life/CSAS> or by calling 918-631-2315.

Math Resource Center. The Math Resource Center, also known as the "Math Lab," provides math tutoring to students in freshman-level mathematics classes. The Math Lab operates on a schedule that typically includes daily hours Monday through Thursday. Math Lab location and hours are published at the beginning of each semester.

Writing Center. Located on the second floor of McFarlin Library and sponsored and staffed by the Department of English, the Helen N. Wallace Writing Center provides free assistance to students in the form of individual and group tutorials on writing assignments. Although tutors will not "fix" or edit essays, they can offer valuable assistance at any point of the writing process from developing a topic to proofreading final drafts. Students may schedule appointments online at <https://utulsa.mynwonline.com>. Drop-in tutoring is also available on a limited basis. Students are encouraged to use these services for any class in which they have a writing assignment, but should schedule appointments well before an assignment is due. See the *Student Guide to The University of Tulsa Writing Program*, which is required in every writing course, for more information.

Tutoring. On-air and in-person tutoring sessions are offered by RLTV. For more information, visit Headlines on CaneLink at <http://www.utulsa.edu/bousing>.

Other Support Services

Career Services. Located on the second floor of the Allen Chapman Student Union, this office provides services for all students and alumni of the University. A major goal is to help all students gain the information and skills needed to select a career and

conduct a job search that will lead to desirable employment. The office also assists students with finding public service internships and part-time employment. Each student and alumnus is provided with individual support in developing a career plan and specific strategies that will lead to his or her employment goal.

Providing 24/7 access to information through its active website www.hireTUgrads.com and GoldenOpporTUnities online tool, Career Services maintains information on internships and other pre-professional work experiences; hosts job fairs that provide information on potential employers; maintains job vacancy information from a variety of sources; and arranges campus interviews with more than 100 prospective employers. Students are encouraged to meet with staff members and begin the career planning process as soon as they arrive on campus.

Health Services. The Alexander Health Center (AHC) provides care and treatment of minor illnesses and injuries to students, faculty and staff. Other services include diagnostic testing and lab studies, medications, immunizations, flu shots, allergy shots, women's clinic, pregnancy testing, STI testing and health education. The AHC is staffed by registered nurses and a physician Monday through Friday, 8:00 a.m. - 5:00 p.m. (closed 12:00 p.m. - 1:00 p.m.). Appointments are encouraged. Office visits are free. There is a minimal charge for lab work and for medications.

A student seen off-campus is responsible for any charges incurred. Off-campus visits may include referrals to a specialist, x-ray and CT/MRI fees, ambulance, hospital and emergency room costs, and prescription medications. Students covered under the TU student health insurance plans are responsible for a \$250.00 deductible for care received off-campus. For more information on the student health insurance requirement, see page 35 in the Tuition and Fees section of this *Bulletin*.

Requirements for immunizations for students may be found on page 35 of this *Bulletin*.

All contacts at the AHC are strictly confidential as protected by law and professional ethics. No information will be released without a separate written consent form signed by the patient.

It is University policy that the AHC does not issue excuses from class for illness. This is a matter between the student and the professor. The AHC "Notification of Medical Illness Policy" may be found on the AHC website at <http://www.utulsa.edu/student-life/Health-and-Wellness/alexander-health-center.aspx>.

Counseling and Psychological Services. Helping students cope optimally with tensions that arise amid the changes and transitions of college life is the special concern of the Counseling and Psychological Services Center, located in the Alexander Health Center. The center also helps faculty and staff function more effectively in their roles. Services for students, faculty, and staff include psychological counseling, assessment, psychoeducational programs, and consultation. Confidentiality is protected by psychologist-client privilege. Appointments may be made in person or by telephone, 918-631-2200, Monday through Friday, 8:00 a.m. - 5:00 p.m. (8:00 a.m. - 9:00 p.m. on Tuesdays). Provisions are also made for anyone requesting counseling immediately.

Speech, Language, and Hearing Testing and Therapy. The University's program in speech language pathology provides diagnostic testing in speech, language, and hearing along with therapy services for individuals of all ages. There is a fee for these services. A free screening clinic is available at the Mary K. Chapman Speech and Hearing Clinic on Fridays, by appointment, to determine if a significant communication

problem exists. Although these screenings do not include detailed diagnostic or therapy services, they do include appropriate counseling, recommendations, and referrals.

Office of Student Affairs. Throughout the year, the Office of Student Affairs provides programs that enhance academic endeavors, counsels individual students regarding their problems, offers guidance and direction to student organizations, and provides a variety of extracurricular and co-curricular activities that broaden students' educational experiences. Specific programs, services, and activities include Interfraternity Council, Panhellenic Council, Student Association, Student Activities, Leadership Education, Multicultural Student Programs, and the Co-Curricular Transcript. This office also handles student disciplinary matters, investigates complaints of sexual harassment or sexual violence/assault, administers the alcohol policy, houses the ombudspersons, coordinates commencement activities, and educates the campus community on student policies and procedures. The Office of Student Affairs is located in the Allen Chapman Student Union.

New Student Programs and New Student Orientation. Orientation is designed to: help new students form new and lasting relationships with faculty, staff and their fellow students; provide an opportunity to become integrated into the TU campus and community; and learn valuable academic skills that will enhance their academic career. The new student orientation program, which occurs the week before fall classes begin, includes programs on campus (educational sessions, a variety of social activities, and the first class sessions of the First Year Experience Course), as well as an off-campus program known as Hurricane Camp, a two-day adventure held at Dry Gulch. Orientation and other first-year programs are implemented by the Office of New Student Programs and Services located in the Allen Chapman Student Union.

Multicultural Student Programs. The Office of Multicultural Student Programs provides individual counseling and support for African, Asian, Hispanic, Native American, bisexual, gay, lesbian, and transgendered students; advises student organizations related to these cultural groups; encourages involvement of students in these groups in all aspects of University life; and provides cross-cultural activities to promote understanding among students of all groups. Multicultural Student Programs include academic study groups, peer mentoring, and a wide variety of celebrations, seminars, and activities that focus on different cultures.

International Student Services. The Office of International Student Services, located in Westby Hall, coordinates undergraduate admission, issues government and immigration documents, counsels students on academic and personal matters, assists international faculty, oversees the English Institute, and offers various programming activities throughout the year. All University of Tulsa students and faculty who are not U.S. citizens are required to register with this office.

English Institute for International Students (EIIS). The English Institute offers an intensive course in writing, speaking, and understanding the English language for international students. The primary objective of EIIS is to provide international students with a sufficient command of English to function in a University of Tulsa classroom. For information about applying to the English Institute, see page 17 of this *Bulletin*.

Residence Directors. See page 37 in the Campus Housing and Dining Section of this *Bulletin*.

Special Opportunities, Facilities, and Services

The Fine and Performing Arts, Film, and Literary Arts

The School of Art, the School of Music and the Department of Theatre offer degree programs that lead to professional careers in the arts and to the appreciation and understanding of the fine and performing arts.

Students who wish to act, to compose and perform music, to create and exhibit art work, or to write and publish fiction, poetry, and performance scripts have many opportunities to do so, regardless of whether or not they major in one of the arts. Through the Tulsa Curriculum and through other campus activities and programs described below, students are given the opportunity to experience the arts as creators, performers, and observers.

Students have opportunities to participate in film and literary arts through the Department of Film Studies and the creative writing program. A wide variety of interdisciplinary courses in film studies is available for interested students.

Internships and apprentice programs are available with arts organizations in the Tulsa community. Within the division, students have the opportunity to engage in interdepartmental and interdisciplinary studies through degree programs such as film studies and arts management. The School of Art offers Third Floor Design, an in-house graphic design internship for students. Third Floor provides design work pro-bono for not-for-profit organizations around Tulsa. Students are encouraged to discuss these options with their advisors and to take part in the rich variety of arts activities on campus.

Visual Arts. The multi-purpose Alexandre Hogue Gallery, housed in Phillips Hall and managed by the School of Art, serves as the chief focal point for the University's engagement with the visual arts. Used year-round for the exhibition of arts, crafts, performance art, and special events, the gallery also offers exhibitions of historical, global, and multicultural significance. It is also the site of the annual Gussman Student Art Exhibition and numerous shows by prominent artists, and can be comfortably used for poetry readings and chamber music performances.

The gallery program is combined with the School of Art's Visiting Artists Program, which brings to campus national and international established and emerging artists to talk about their work, give workshops, and work with students in the studios. Visiting critics and art historians add a scholarly dimension to this program. The Alexandre Hogue Gallery is open Monday through Friday without charge.

The Henry Zarrow Center for Art and Education is located in the center of the downtown Brady District and serves The University of Tulsa's School of Art, the Division of Lifelong Learning, and the Gilcrease Museum. The three-story Zarrow Center covers 18,000 square feet and has been renovated to include classrooms, art studios, Third Floor Design, the Sherman Smith Family Gallery, and a reception area. Studio space on the third floor of the Zarrow Center serves TU's Master of Fine Arts program, making the site a living laboratory of artistic expression for resident talents and visiting professionals. The first floor houses the Sherman Smith Family gallery

space featuring art exhibitions by noted artists at the regional and national levels and summer exhibits from the collection of the Gilcrease Museum.

The University of Tulsa Theatre. The theatre arts are a rich and rewarding part of student life at The University of Tulsa. The theatre season at The University of Tulsa is characterized a variety of high-quality productions which often include a musical, a dance production, a classic play, and a contemporary play, as well as original works, one-acts, and student works. The TU Department of Theatre has received regional and national recognition and awards for its participation in the American College Theatre Festival and the Irene Ryan Acting and Design competitions. Recent productions have included *Spring Awakening*, *Altar Boyz*, *Rent*, *Reefer Madness*, *Angels in America-Perestroika*, *The Drowsy Chaperone*, *Marisol*, *So TU Think you can Dance?*, *Tartuffe*, and *A Streetcar Named Desire*. Visiting artists have included Edward Albee, Hal Prince, Lee Blessing, Jose Quintero, Anthony Zerbe, and Carole Shelley, as well as many guest designers and professional directors. Students from all areas of study are welcome to participate in theatre productions. Auditions and technical opportunities in lighting, scenery, projections, and costuming are open to all University students.

Film Studies. The Department of Film Studies, located in the Lorton Performance Center, screens three student film festivals each year. Casting calls for student narrative films offer opportunities for interested student actors. Frequent campus visits by distinguished film directors, producers, writers, and composers, often accompanied by special film screenings, are open to all University students. Recent visiting artists have included composer David Friedman, actor Larry Sharp, director Ed Ornelas, and filmmaker Micah Fitzerman-Blue.

Students may enroll in a variety of courses in film history, production, screenwriting, theory, and criticism; and there is a rich offering of interdepartmental and interdisciplinary courses such as Music and Film, Literature and Film, Cinéma and Culture, Gangster Films, and many others. Students may inquire about events, opportunities and courses at the Department of Film Studies office on the second floor of the Lorton Performance Center.

Literary Arts. The University offers creative writing instruction through the Departments of Communication, English, Film Studies, Languages, and Theatre, and occasional opportunities for all students to publish their work in a student-edited journal called *Stylus*, *The Student Journal of Art and Writing*. The University also publishes the *Nimrod International Journal of Prose and Poetry*, described on page 62, which publishes writers from all over the world but is also open to competitive submissions from graduate and undergraduate students.

Writer-in-residence Russian poet Yevgeny Yevtushenko and Applied Professor Michael Wright, Director of the Interdisciplinary Program in Creative Writing, teach and encourage new students of fiction, nonfiction, and poetry. They also offer expertise in the legal complexities of publishing, stage and film rights, and media coverage. Yevtushenko is a world-renowned, Nobel-prize nominated poet, novelist and performance artist whose vision and voice have inspired thousands over many decades. His works have been published in a multitude of volumes. Wright has written numerous plays, which have been produced around the world. His books, *Playwriting in Process*, 2nd ed., *Playwriting Master Class*, 2nd ed., and *Playwriting at Work and Play: Developmental Programs and Their Process*, are standard texts nationally and internationally. The creative writing program attracts a wide range of high profile writers to campus.

The J. Donald Feagin Distinguished Visiting Artist program and the Darcy O'Brien Distinguished Chair annually bring to the campus guest artists in the humanities such as the late Seamus Heaney, David Lehman, Colleen McElroy, Jose Rivera, Paula Vogel, Stephen Sondheim, Tony Kushner, and Tina Howe.

TU Concert Chorale. The TU Concert Chorale is the largest choral ensemble in the School of Music performing standard major works as well as smaller choral pieces. Literature is chosen to increase the student's knowledge of repertoire and to supply a well-rounded body of choral music over a four-year period. Placement auditions are required.

TU Cappella Chamber Singers. This auditioned smaller ensemble performs chamber literature from the Renaissance through twentieth-first century. The most select vocal ensemble, the Chamber Singers also perform at University functions and tour throughout the region.

Chamber Ensembles. A variety of smaller student ensembles, made up of strings, woodwinds, brass or percussion, is formed to provide experience in this media.

Opera Workshop. Opera Workshop is open through audition to all qualified students interested in exploring the opera experience. Programs of opera scenes drawn from the standard and contemporary literature of opera and operetta are presented. Character and music development are stressed as well as backstage organization and stage deportment.

Orchestra. Membership in the TU Orchestra is open to all qualified students through auditions held during the first week of each semester. The TU Orchestra performs on campus and in other locations such as the Tulsa Performing Arts Center. Each concert features masterworks from the orchestral repertoire and outstanding faculty or student soloists. The orchestra also performs in selected productions of the musical theatre and opera programs.

Wind Ensemble. Composed of nearly 50 wind and percussion players, this prestigious concert ensemble is assembled in the early fall and draws participants from throughout the University. The TU Wind Ensemble presents several concerts each year both on and off campus. An audition is required.

Symphonic Band. The TU Wind Ensemble forms the nucleus of this larger ensemble. The Symphonic Winds performs in campus concerts, at commencement and other University events.

Sound of the Golden Hurricane. Distinguished by its exciting corps-style half-time entertainment, the Sound of the Golden Hurricane features contemporary music and drill at every home game and selected away games. During basketball season, the Sound of the Golden Hurricane serves as a pep band in the student spirit section of the Reynolds Center and accompanies the team during post-season tournaments. Auditions are held on designated audition dates in February and March or by special appointment.

Jazz Ensembles. The TU Jazz Ensembles are recognized as among the nation's best. These include Jazz Guitar Ensemble, Jazz Combos, Vocal Jazz, and the Big Band. Auditions for the jazz ensembles take place during the first week of the fall semester. Jazz groups perform regionally as well as on campus. Each year, the jazz program brings prominent professional artists to TU to perform and tour with the student ensembles.

Religious Life

Because The University of Tulsa was founded as an institution of higher education of the Presbyterian Church (USA), the University encourages a full, rich, and diverse expression of religious life. The Office of the Sharp Chaplain provides for and supports the expression of the life of faith on campus: planning, implementing, and sponsoring religiously oriented programs; providing counseling and pastoral care; serving as a liaison with other religious groups; and assisting the campus community in nurturing a caring and respectful environment for its pervasive expressions of faith.

Sharp Memorial Chapel, home to the ministries of the Sharp Chaplain, shares the plaza with McFarlin Library, Kendall Hall, and Tyrrell Hall. Its location at the center and heart of the campus is a fitting metaphor for the University's historic and continuing covenantal ties with the Presbyterian Church (U.S.A.). With renovations completed in April 2004, the chapel sanctuary has been refurbished and a new wing now stands in place of the original west wing of the chapel complex. On the first floor of the new wing is the Robert C. Sharp Westminster Student Center for Presbyterian campus ministry; the Josephine P. Sharp Reception Suite for formal receptions and other special events; the Buford Atrium for group meetings, presentations, lunch and dinner gatherings; and a full kitchen. On the new wing's second floor is the Martha S. Buford Canterbury Suite — a seminar room for group meetings, seminars and workshops — and the Offices of the Sharp Chaplain. The Chapel complex also offers, beyond its other striking architectural features, a new bell tower and carillons. A number of campus ministries provide programs of outreach and nurture for their respective constituencies at the University. Each of these ministries, which are listed on page 69, adds its distinctive identity and voice to the University's rich and vibrant religious life.

Publications, Radio, and Television

Collegian. The *Collegian*, the student newspaper, is published on Tuesday during the fall and spring semesters. The publication, which reports on campus issues, has received numerous national and state awards for overall newspaper excellence and individual writing. Salaried positions on the paper for editor, business manager, writers, and layout and paste-up staff are available. Call the *Collegian* office at 918-631-3818 for more information.

Nimrod International Journal of Prose and Poetry. In the tradition of the influential “little” magazines that first published Virginia Woolf, T.S. Eliot, and James Joyce, *Nimrod* publishes excellent writing from across the U.S. and abroad, including competitive work by graduate and undergraduate students. Published twice yearly, the journal sponsors the national *Nimrod* Literary Awards competition in fiction and poetry. Thematic issues, one each year, have featured Arabic, Chinese, East Indian, Native American, and Russian writers, and the works of writers over age 65. *Nimrod* also offers programs throughout the year, including its annual Conference for Readers and Writers in October, which brings award-winning authors to Tulsa to serve as writing workshop leaders.

James Joyce Quarterly. For nearly 50 years, the *James Joyce Quarterly* has been the flagship journal of international Joyce studies. In each issue, the *JJQ* brings together a wide array of critical and theoretical work focusing on the life and writing of James Joyce and the reception of his works. Submissions of all types are encouraged, including

archival, historical, biographical, and critical research. Each issue of the *JJQ* provides a selection of peer-reviewed essays representing the very best in contemporary Joyce scholarship. In addition, the *JJQ* publishes notes, reviews, letters, a comprehensive checklist of recent Joyce-related publications, and announcements of Joyce-related events. To supplement the print journal, a broad array of electronic resources for scholars, including an archive of past issues, a calendar of Joyce conference and symposiums, and an on-line checklist are available at www.utulsa.edu/jjq/. The goal of the *JJQ* is simple — to provide an open, lively, and multidisciplinary forum for the international community of Joyce scholars, students, and enthusiasts.

Tulsa Studies in Women's Literature. *Tulsa Studies in Women's Literature (TSWL)*, the first journal devoted solely to women's literature, publishes groundbreaking articles, notes, research, and reviews of literary, historicist, and theoretical work by established and emerging scholars in the field of women's literature and feminist theory. From its founding in 1982 by Germaine Greer, *TSWL* has been devoted to the study of both literary and nonliterary texts — any and all works in every language and every historical period produced by women's pens.

Stylus, The Student Journal of Art and Writing. See Literary Arts paragraph on page 60.

Public Radio Tulsa. Public Radio 89.5, KWGS-FM, and Classical 88.7, KWTU-FM, are northeastern Oklahoma's National Public Radio affiliates. Administered by nine professional staff members, these stations offer students opportunities to experience broadcasting in actual work settings. The stations are affiliates of National Public Radio, Public Radio International, American Public Media and the British Broadcasting Corporation. KWGS was the first FM station in Oklahoma and KWTU is the state's first HD Radio station. Students throughout the University who are interested in the production, engineering, and management aspects of broadcasting are encouraged to audition and apply for employment in Kendall Hall, Room 160. For more information, e-mail public@publicradiotulsa.org or visit www.publicradiotulsa.org.

RLTV. Residence Life Television (RLTV) is sponsored by The University of Tulsa's Office of Housing and Dining Services and reaches all on-campus residents. This station offers 24/7 movies on Channel 24 and Digital Channel 624, tutoring sessions called Solutions and an online movie library called CaneFlix, accessible through <https://canelink.utulsa.edu/> while on campus. On-air tutoring sessions offered are Spanish I, Physics I, and Calculus I. Conversational English and Chemistry I are offered in person. For location and more information, visit Headlines on CaneLink at <http://www.utulsa.edu/housing>.

TUTV. Students from any major may do extracurricular work to produce TUTV, a weekly half-hour information and entertainment program about the University. Students are the on-camera talent and operate all of the equipment. In addition, the studio and facilities are used for classes in video and film production taught each semester. Occasionally, other campus-related videos are produced. One television studio, three control rooms, video editing facilities, and a TV classroom are located in Kendall Hall.

Campus Recreation

Collins Fitness Center. The Fulton and Susie Collins Fitness Center, located at 5th and Delaware, is available free of charge to students, and for a fee to faculty and staff. It houses an indoor track, a cardio theater, three basketball courts, a huge fitness area, a lounge, multipurpose rooms and equipment that may be checked out. A complete schedule of hours, as well as information regarding intramural sports, fitness, and informal recreation, is available in the Campus Recreation Office. Additional information regarding Campus Recreation is available at www.utulsa.edu/recreation.

The Starbucks at Collins Fitness Center offers grab-n-go sandwiches, smoothies, pastries, soups, and the ever popular world-famous Starbucks coffee and espressos. The shop is located in the lobby of Collins Fitness Center. Starbucks hours are 10:00 a.m. - 7:00 p.m. Monday through Friday when the Collins Fitness Center is open.

Mabee Gymnasium. Located at 8th and Florence just north of H. A. Chapman Stadium, the Mabee Gym has racquetball and squash courts available for student, faculty, and staff use. For turf room availability, contact Associate Director of Athletics Nick Salis at nick-salis@utulsa.edu.

NCAA Athletics

The University of Tulsa is an NCAA Division I member for all sports and a member of the American Athletic Conference. TU moved into the American Athletic Conference on July 1, 2014, after dominating Conference USA with more than double the number of league championships than any other conference school in nine years as a C-USA member. TU sponsors 18 intercollegiate sports: women's basketball, cross country, golf, indoor track, rowing, soccer, softball, tennis, outdoor track, and volleyball; and men's basketball, cross country, football, golf, indoor track, soccer, tennis, and outdoor track.

TU Athletics has consistently ranked among the top 75 schools in the United States in the yearly NACDA Learfield Sports Director's Cup Standings, a ranking that honors programs achieving success in many sports. TU has made a mark on the collegiate landscape dating back to the early 1900s with its football program. In the 1940s, TU became the first school to play in five straight New Year's Day bowl games. Hurricane teams have won national championships in the women's golf (2 AIAW and 2 NCAA), men's basketball (2 NIT), and men's tennis (1 NIT).

Tulsa athletes are also winners in the classroom, as the graduation rate of TU student-athletes ranks among the top third of all schools competing in Division I. Tulsa student-athletes have garnered conference, regional, and national academic honors to go along with their many achievements on the playing field.

The nickname of TU athletic teams is the Golden Hurricane. TU's colors are old gold, royal blue, and crimson.

Prospective student athletes interested in joining one of TU's athletic teams should contact the Department of Athletics at 918-631-2381.

For more information on TU Athletics, visit <http://TulsaHurricane.com>, or follow Tulsa Golden Hurricane on Facebook and Twitter.

Student Government

Student Association. All full- and part-time undergraduate and graduate students are members of the Student Association (SA), The University of Tulsa's student government. SA promotes and provides intellectual, social, and cultural opportunities for the entire campus community. In addition, by acting as a catalyst for change within the University, the student government strives to represent the needs of the entire student body. Services include, but are not limited to, programming, support for other student organizations, and legal services.

The Student Association consists of three branches: legislative, executive, and judicial. For full details on the structure and activities of the Student Association, visit <http://orgs.utulsa.edu> or contact the Coordinator of Student Activities at 918-631-2585.

Residence Hall Association (RHA) and Apartment Advisory Council. See page 37 in the Campus Housing and Dining section of this Bulletin.

True Blue Neighbors

Designed to provide a vehicle to engage the entire TU community in a structured partnership with the neighborhood community surrounding the campus, True Blue Neighbors formalizes the service and commitment provided by our students, faculty and staff through a collaboration of partnerships dedicated to improving the quality of life in the greater Tulsa community, with primary focus on the Kendall Whittier Neighborhood. Initiated in 2009, True Blue Neighbors embodies the University's motto of Wisdom, Faith and Service.

The mission of the True Blue Neighbors Volunteer Center is to develop a culture of service within the University, advocating community service and social responsibility for all members of the TU community; to serve as a clearinghouse of resources and referrals on community agencies, service opportunities, and other public service initiatives; to promote awareness of social issues; to connect the resources of the University with community needs and strengths; and to empower students, faculty, and staff to develop a lifelong commitment to service.

The True Blue Neighbors Volunteer Center maintains a database of local non-profit organizations, community service agencies, schools, and other entities seeking volunteers. Assistance is provided to ensure that individuals find the right opportunity to provide service in a meaningful way. The Center is located in Sharp Chapel, room 2209. Volunteer opportunities may be viewed online at <http://trueblueneighbors.com>.

Student Organizations

Fraternities and Sororities. Six national fraternities (listed under Interfraternity Council on page 70) and eight national sororities (listed under Panhellenic on page 70) have chapters at the University. They encourage scholarship, leadership, and personal development. Recruitment, held at various times during the year, offers each student a chance to decide about membership in a fraternity or sorority. These organizations distribute information during the summer months regarding their recruitment programs. Contact the Office of Student Affairs at 918-631-2327 for more information.

Campus Organizations and Activities. The following campus organizations and activities, which appeal to a broad spectrum of interests and needs, have been officially recognized by the Student Association Senate. Further information on these organizations and activities is contained in the *Student Handbook* found online at www.utulsa.edu/student-life/Office-of-Student-Affairs/Student-Handbook.aspx.

Honor Societies

Alpha Epsilon Delta (Pre-med)
Alpha Mu Alpha (Marketing)
Beta Alpha Psi (Accounting)
Beta Beta Beta (Biology)
Beta Gamma Sigma (Business)
Eta Kappa Nu (Electrical Engineering)
Honors Program
Iota Sigma Pi (Women in Chemistry)
Kappa Delta Pi (Education)
Kappa Kappa Psi (Music)
Lambda Alpha (Anthropology)
Lantern (Sophomore)
Mortar Board (Senior)
Mu Epsilon Delta (Natural Sciences)
National Residence Hall Honorary
Omega Chi Epsilon (Chemical Engineering)
Omicron Delta Epsilon (Economics)
Omicron Delta Kappa (Leadership)
Order of Omega (Fraternities and Sororities)
Order of the Curule Chair (Law)
Phi Alpha Theta (History)
Phi Beta Kappa (Liberal Arts)
Phi Delta Phi (Law)
Phi Eta Sigma (Freshmen)
Phi Kappa Phi (All disciplines)
Phi Lambda Upsilon (Chemistry)
Phi Sigma Iota (International Foreign Languages)
Phi Sigma Tau (Philosophy)
Pi Sigma Alpha (Political Science)
President's Ambassador Council (PAC)
Psi Chi (Psychology)

Scroll (Junior)
 Sigma Delta Pi (Hispanic)
 Sigma Iota Epsilon (Management)
 Sigma Pi Sigma (Physics)
 Sigma Theta Tau International (Nursing)
 Sigma Xi (Graduate Research)
 Tau Beta Pi (Engineering)
 Theta Alpha Phi (Theatre)

Special Interest, Service and Pre-professional Organizations

Academic Bowl Team
 ACT-TU (Actors, Costumers and Technicians)
 Alpha Phi Omega, Beta Pi Chapter (Service)
 American Association of Drilling Engineers (AADE)
 American Association of Petroleum Geologists
 American Indian Cultural Society (AICS)
 American Institute of Chemical Engineers (AIChE)
 American Society of Mechanical Engineers
 Angola (Angolan Student Association)
 Art Student Society
 Asian American Student Association
 Association of Black Collegians
 Association of International Students
 Association of Computing Machinery (ACM)
 Association of Music Students
 Ballroom Dance Club
 Billardo Club
 Biology Graduate Student Association
 Chinese Student Association
 Commuter Advocacy and Resource Society
 Council for Professional Excellence
 Cultural Exchange Coalition
 Deaf Education Association of TU (Deaf TU)
 Delta Theta Phi (Law)
 Earth Matters
 Engineers Without Borders
 English Graduate Student Association
 Engineering and Natural Sciences (ENS) Council
 Exercise and Sports Science Club
 Free Thinkers (Secular Student Alliance)
 Future Alumni Council
 Future Athletic Trainers' Society
 Geosciences Club
 Graduate Chemistry Association
 Graduate Student Association
 Graduate Students in Psychology Association
 Habitat for Humanity

Indian Student Association
Information Technologists United (iTU)
Institute of Electrical and Electronics Engineers (IEEE)
Kazakh Students Association of Tulsa
Korean Student Association
Lanbrew
LEAD Student Advisory Council
Leaders INCorporated
Linux Users Group
Making a Difference Engineering at TU
Mathematical Student Association of America
Marketing Club
Model United Nations
National Pan-Hellenic Council (NPHC)
National Society of Corrosion Engineers (NACE)
National Society of Black Engineers
Nigerian Student Association
Oklahoma Intercollegiate Legislature
Orientation Leaders
PERMIAS - Tulsa
Persian Student Association
Phi Alpha Delta (Law)
Phi Mu Alpha Sinfonia (Music Fraternity)
PRIDE
Public Relations Student Society of America
Russian Club
Saudi Arabian Student Club
Sigma Alpha Iota (Women's Music Fraternity)
Sigma Phi Lambda (Women's Christian Sorority)
Soccer Club for Men
Society of Hispanic Professional Engineers
Society of Human Resource Management
Society of Petroleum Engineers
Society of Physics Students
Society of Women Engineers
Society for Gender Equality
Spiked Punch Lines Improv
St. Theresa Women's Group
Student Athlete Advisory Committee
Student Economics Association
Student Finance Association
Student Health Advocates Association
Student Investment Group
Student Nursing Association
Students Against Slavery
Sustainable Engineering for Needy and Emerging Areas
Tabletop Gaming

Tennis Club
 Terpsichore
 Tertulia
 The Ad Program
 The Cricket Club
 The Forge
 Treks
 TU Brazil Club
 TU Fishing Club
 TU Global Network
 TU Rugby Football Club
 TU Student Speech, Language, and Hearing Association
 TU Student Veteran Association
 Tulsa Energy Management Student Association
 Tulsa Two-Stepping
 Turkish Student Association
 Ultimate Frisbee
 University Ambassadors
 University of Tulsa Men's Lacrosse
 Vietnamese Student Association
 Volleyball Club
 Welcomers International Association

Religious Organizations

On-campus Religious Centers and Campus Ministries

Baptist Collegiate Ministries
 Canterbury Episcopal Student Fellowship
 Chi Alpha (Assembly of God)
 Christian Legal Society
 CRU (Campus Crusade for Christ)
 Fellowship of Christian Athletes
 FOCUS (Fellowship of Catholic University Students)
 International Student Ministries
 Hillel House
 Latter Day Saints Student Association
 Lutherans and Friends
 Muslim Student Association/Muslim Prayer House
 Newman Catholic Campus Ministry
 Nurses Christian Fellowship
 Rivendell Fellowship
 RUF (Reformed University Fellowship)
 St. Philip Neri Newman Center - Catholic Campus Ministry
 Student Mobilization
 UKIRK Campus Ministry
 United Campus Ministries
 Wesley Foundation
 Westminster Center Presbyterian Leaders and Scholars Leadership Program

Young Life

Churches in Campus Ministry

Christ Presbyterian Church
College Hill Presbyterian Church
First Presbyterian Church
Grace Lutheran Church (LCMS)
St. Antony Orthodox Church
University United Methodist Church

Governing Bodies

5th Place House
Apartment Advisory Council
Engineering and Natural Sciences Council
Fisher South Government
Interfraternity Council
International Living Community Government (7th Street House and LaFortune House)
John Mabee Hall Government
Lottie Jane Mabee Hall Government
Panhellenic Council
Residence Hall Association
Student Association
West Suites Government

Panhellenic

Alpha Kappa Alpha
Chi Omega
Delta Delta Delta
Delta Gamma
Delta Sigma Theta
Kappa Alpha Theta
Kappa Delta
Kappa Kappa Gamma

Interfraternity Council

Kappa Alpha
Kappa Alpha Psi
Kappa Sigma
Lambda Chi Alpha
Pi Kappa Alpha
Sigma Chi

Intramural Sports

Badminton Singles and Doubles
Basketball (One on One, Three on Three, Five on Five, Tip-Off Basketball Classic)
Bowling
Dodgeball

Eight Ball Pool
Flag Football
Disk Golf
Golf (Championship Doubles, Putt Putt)
Sand Volleyball Doubles
Softball
Table Tennis Singles
Tennis Singles and Doubles
Ultimate
Volleyball

Fitness Programs (through the Collins Fitness Center)

CardioKick
Corepump
Pilates
XFactor
Zumba

Fine and Performing Arts, Film, and Literary Arts

See organizations listed beginning on page 59.

Publications, Radio, and Television

See organizations listed beginning on page 62.

NCAA Sports

See sports listed on page 64.

Student Rights, Freedoms, and Responsibilities

The University of Tulsa maintains a statement of rights, freedoms, and responsibilities, which sets forth general guidelines suggested for members of the University community.

The document outlines University policy in the following areas: freedom of academic inquiry, freedom of expression, freedom of association, right to privacy, off-campus freedom, student self-government, right of students to participate in University government and the decision-making process, and standards in disciplinary proceedings. More detailed information concerning any of these areas may be obtained from the Office of Student Affairs, Holmes Student Center, and the current *Student Handbook* found online at www.utulsa.edu/student-life/Office-of-Student-Affairs/Student-Handbook.aspx.

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

FERPA gives parents certain rights with respect to their children's education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. Students to whom the rights have transferred are "eligible students."

Eligible students have the right to inspect and review their education records maintained by the school. Schools are not required to provide copies of records unless, for reasons such as great distance, it is impossible for eligible students to review the records. Schools may charge a fee for copies.

Eligible students have the right to request that a school correct records which they believe to be inaccurate or misleading. If the school decides not to amend the record, the eligible student then has the right to a formal hearing. After the hearing, if the school still decides not to amend the record, the eligible student has the right to place a statement with the record setting forth his or her view about the contested information.

Generally, schools must have written permission from the eligible student in order to release any information from a student's education record. However, FERPA allows schools to disclose those records, without consent, to the following parties or under the following conditions (34 CFR § 99.31):

- School officials with legitimate educational interest;
- Other schools to which a student is transferring;
- Specified officials for audit or evaluation purposes;
- Appropriate parties in connection with financial aid to a student;
- Organizations conducting certain studies for or on behalf of the school;
- Accrediting organizations;
- To comply with a judicial order or lawfully issued subpoena;
- Appropriate officials in cases of health and safety emergencies; and

- State and local authorities, within a juvenile justice system, pursuant to specific State law.

Schools may disclose, without consent, "directory" information such as a student's name, address, telephone number, date and place of birth, honors and awards, and dates of attendance. However, schools must tell eligible students about directory information and allow eligible students a reasonable amount of time to request that the school not disclose directory information about them. Schools must notify eligible students annually of their rights under FERPA. The actual means of notification (special letter, inclusion in a PTA bulletin, student handbook, or newspaper article) is left to the discretion of each school.

For additional information or to get a Release of Information Form, contact the Office of Student Affairs at 918-631-2327. Additional Information is also available at the Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue SW, Washington, D.C. 20202-8520.

Health Insurance Portability and Accountability Act of 1996 (HIPAA)

This act includes provisions to protect the privacy of individually identifiable health information. For more information about the University's policy, contact the Office of Human Resources.

General Standard of Conduct

In keeping with the ideals and standards of higher education and the mission of The University of Tulsa, students are expected to treat one another and other members of the University community with mutual respect, dignity, honor, and trust.

Specifically, students are expected to respect order, fairness, morality, and the rights of others; obey the laws of the land and the regulations, rules, and policies of the University; and conduct their activities with high regard for the ideals of higher education, which include personal honor, academic honesty, and intellectual freedom. Behavior that runs contrary to these expectations provides sufficient cause for the University to initiate disciplinary proceedings, as specified in the current *Student Handbook*. The full text of the General Standard of Conduct as well as the rules and regulations governing student life and policies governing such issues as drug and alcohol use, sexual harassment, and sexual violence may be found in the *Student Handbook* found online at www.utulsa.edu/student-life/Office-of-Student-Affairs/Student-Handbook.aspx. See also the summary statement on academic honesty which appears on page 31 of this *Bulletin*.

The Henry Kendall College of Arts and Sciences

The Henry Kendall College of Arts and Sciences offers students the opportunity to gain a broadly-based liberal arts education, to learn to think critically, and to master the skills of writing clearly, logically, and persuasively. In addition to their major fields, all students in the Henry Kendall College of Arts and Sciences study a variety of areas of knowledge, including the humanities, the arts, the social sciences, and the natural sciences. In the process, they study Western and other cultures and acquire competence in mathematics.

Courses in the general curriculum are taught by experienced faculty members in classes small enough to facilitate interaction between faculty and students. Students also select a major and minor field of study from among the traditional academic disciplines and have available to them some unusual and challenging interdisciplinary programs such as majors in arts management, Chinese studies, environmental policy, film studies, organizational studies, and women's and gender studies, as well as minors in early childhood intervention and creative writing. Students may also design a specialized major program of concentration and may earn certificates in interdisciplinary certificate programs. Perhaps of greatest importance, students in the Henry Kendall College of Arts and Sciences work with many distinguished teachers and scholars who are committed to rigorous, high-quality undergraduate education. In short, students are offered an education that allows them to expand their perspectives, explore new areas of knowledge, engage in concentrated and extensive study of specific areas of knowledge, master the skills necessary to function in the modern world, and become part of a community of teachers, scholars, and learners.

Our Mission

The College nourishes free and rigorous intellectual inquiry among students and faculty in an atmosphere that respects differences in background, belief, and aspiration; it also maintains and strengthens the academic and civic values that underlie and support an open, culturally diverse, and democratic society.

We seek to create, refine, conserve, and disseminate knowledge and artistic expression at the highest levels. The success of the College in offering all students of The University of Tulsa a broadly based liberal arts education depends upon the rigor with which the faculty approaches teaching and scholarship and upon the degree to which students commit to intellectual excellence, aesthetic appreciation, and critical thinking.

The faculty affirms that service to the institution, the profession, and the community is a significant dimension of the professional life of faculty members.

Accreditation

All programs for the preparation of teachers are recognized by the Oklahoma Commission for Educational Quality and Accountability (OCEQA) and nationally accredited by the Teacher Education Accreditation Council. The School of Music of The University of Tulsa is an accredited institutional member of the National Association of Schools of Music (NASM). The following degrees are listed by NASM: Bachelor of Arts in Music, Bachelor of Music Education, Bachelor of Music in Performance, and Bachelor of Music in Composition. The deaf education program is

accredited by the Council on Education of the Deaf, and the M.S. degree program in speech-language pathology is accredited by the Council on Academic Accreditation in Audiology and Speech Language Pathology (CAA) of the American Speech-Language-Hearing Association (ASHA). The Ph.D. program in clinical psychology is accredited by the American Psychological Association.

Academic Programs

The Core Curriculum

In the core curriculum, there are two fundamental requirements. The first is that each student learn to write English with precision and fluency, a process enhanced by continuing practice in courses across the curriculum. The second requirement is that in completing a bachelor's degree each student acquire broad skills and knowledge complementary to his or her academic specialization.

To earn the Bachelor of Arts degree, the student completes study of a second language through the fourth-semester level or demonstrates equivalent proficiency. Language study is available in Chinese, French, German, Greek, Hebrew, Latin, Portuguese, Russian, Spanish and American Sign Language. Students who enroll in a language course above 1004 and complete the course with a grade of C or higher receive "delayed proficiency credit" for the previous course as well. Students with previous college credit or AP/IB credit are not eligible for delayed proficiency credit in the same language. A maximum of either three or four delayed credits may be earned. Non-native English speakers should consult the College Office of Advising for Bachelor of Arts degree requirements.

The Bachelor of Science degree requires the student to complete a sequence of prescribed courses in mathematics and statistics. Selection of course work may be stipulated by the major program. The Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Music Education are pre-professional degrees based on the College's historic involvement with the fine and performing arts. Degree requirements in these programs vary.

Each incoming student completes a sequence of writing courses that provides him or her with the skills needed to meet the expectations and demands of college-level assignments. The writing course teaches practical skills and abilities that are broadly applicable. An advanced course is available for highly qualified students. A fully-staffed writing laboratory is also available to all students who desire to work one-on-one with trained tutors. This laboratory is equipped with personal computers that are compatible with the large number of microcomputers available in the Computer Resource Center.

As part of the writing requirement, each incoming student completes a specialized course called a First Seminar (FS 1973) during the first year at The University of Tulsa. The First Seminar provides an intimate atmosphere in which to study with a faculty member and underscores the enduring relationship between writing and learning by requiring several papers to be written during the semester.

All incoming undergraduates must also complete, place out of, or show proficiency in Contemporary Mathematics (MATH 1083) or another basic mathematics course certified by the University Curriculum Committee, such as Basic Calculus (MATH 1103), Mathematics with Applications (MATH 1093), or Pre-calculus Mathematics (MATH 1163). Incoming freshmen also complete AS 1001, an orientation course that

introduces students to a disciplinary topic as well as skills and services necessary to student success. This course is taught by the student's faculty advisor.

Undergraduates in the Henry Kendall College of Arts and Sciences complete their course of study with an intensive, rigorous, senior-year academic experience. The nature of this senior requirement varies by discipline but usually consists of a specially designed course in the student's major area of study. To determine the appropriate senior requirement, students should consult their faculty advisor or the College Office of Advising.

The General Curriculum

The general curriculum encourages the acquisition of knowledge that spans the arts and sciences. Courses in the general curriculum are distributed among intellectual categories to guarantee that each student has an understanding and an appreciation of several kinds of knowledge in addition to the knowledge acquired in the major and minor. Courses in the general curriculum also are designed to give students an introduction to the methodologies and perspectives of a variety of disciplines. Students choose from courses offered in the following categories: Aesthetic Inquiry and Creative Experience (Block I), Historical and Social Interpretation (Block II), and Scientific Investigation (Block III). The general curriculum requirements include the completion of two courses taken in Block I, four in Block II, and two in Block III. For a description of each block, see page 20.

All students in the Henry Kendall College of Arts and Sciences must also meet a Cultural Diversity and Gender Studies Requirement by taking two courses from a list compiled by the College Curriculum Committee. These are courses that focus on the formation and diversity of cultural and gender identities as well as on the way these identities change and interact with one another. These courses may also be used to satisfy requirements in the core curriculum, the general curriculum, or the area of concentration. Course selection in core and general curricula may in some cases be dictated by the major.

Area of Concentration

The area of concentration includes a major subject and a minor field or certificate program chosen by the student with the approval of the major advisor. For the Bachelor of Arts and Bachelor of Science degrees, at least 39 but no more than 55 semester hours shall be earned in the area of concentration. The 55-hour total may be exceeded only by completing hours beyond the 124 required for graduation. At least 27 but no more than 39 semester hours shall be earned in the major subject. The 39-hour total may be exceeded only by completing hours beyond the 124 required for graduation. For the Bachelor of Fine Arts degree, at least 51 but no more than 65 semester hours shall be earned in the area of concentration. The 65-hour total may be exceeded only by completing hours beyond the 124 required for graduation. At least 27 but no more than 53 semester hours shall be earned in the major subject. The 53-hour total may be exceeded only by completing hours beyond the 124 required for graduation. To be eligible for graduation, the student must achieve a grade point average of at least 2.2 in the area of concentration as well as an overall grade point average of least 2.0 and the completion of a total of 124 hours.

Admission to certain degree programs may be limited and have additional academic requirements or a separate program application.

The Major Subject

Students usually choose their major subject between the end of their first year and end of their second year of study. Two-thirds of the course work in the major subject must be at the 3000 or 4000 level. Each department determines the exact number of hours required in the major subject and the area of concentration. Along with majors in all of the departments, the College offers seven interdisciplinary majors: arts management, Chinese studies, environmental policy, film studies, organizational studies, Russian studies, and women's and gender studies.

The Minor Field

The minor field comprises courses from one or more disciplines that are distinct from the major. The minor field consists of at least 12 semester hours, six of which must be at the 3000 or 4000 level, in a subject approved by the major advisor. For a minor in languages, all 12 hours must be at the 3000-4000 level. The number of hours in the minor may exceed 12 as long as the total number of hours in the area of concentration (all courses in the major subject area and the minor field) does not exceed the total permitted. The student and the major advisor should consult the department in which the minor is awarded in order to determine the appropriate courses. The College Curriculum Committee must approve any programs that differ from these College guidelines. Interdisciplinary minors in early childhood intervention, creative writing, Russian studies, and women's and gender studies have been approved by the College Curriculum Committee and do not need to be approved on a case-by-case basis.

Student-Designed Area of Concentration

The student-designed area of concentration provides a means of accommodating student needs and interests where no appropriate program exists in the College. It is also intended to accommodate student interests that may cross collegiate lines.

A request by a student for a student-designed area of concentration must be approved by the College Curriculum Committee. To be eligible to submit a proposal, the student must have a cumulative grade point average of at least 3.0 and must have completed between 30 and 75 hours of acceptable course work. The Office of the Dean will provide assistance to any student regarding preparation of the proposal.

It is mandatory that the student secure the assistance of one or more faculty members whose areas of competence are associated with the student's interest. All policies governing the area of concentration are applicable to a student-designed area of concentration. No more than two independent study courses may be substituted in a previously approved area of concentration. If such substitutions are necessary, the program must be re-evaluated by the College Curriculum Committee.

A proposal requesting permission to pursue a student-designed area of concentration must include the following: (1) a statement of the aims the student seeks to realize through the program; (2) a statement demonstrating that the existing programs of the College do not offer opportunities to achieve these aims; (3) an itemized list of the courses the student will seek to include in the program; and (4) an endorsement of the student's plan from the faculty member or members who will serve as the student's major advisor(s) in the program.

Bachelor of Arts (B.A.)

I. **Tulsa Curriculum** 49-52

 A. Core Curriculum

 ENGL 1033, Exposition and Argumentation

 FS 1973, First Seminar

 AS 1001, First Year College Experience*

 Senior Project (3 hours)

 MATH 1083 (or higher) (3 hours)

 Foreign Language (12-14 hours)**

 B. General Curriculum***

 Block I (6 hours)

 Block II (12 hours)

 Block III (7 hours, including one lab)

II. **Minor (if applicable)**12-15

III. **Major Courses** 30-59

IV. **General Electives**.....11-36

Total.....124

Bachelor of Science (B.S.)

I. **Tulsa Curriculum** 42-43

 A. Core Curriculum

 ENGL 1033, Exposition and Argumentation

 FS 1973, First Seminar

 AS 1001, First Year College Experience*

 Senior Project (3 hours)

 MATH 2014 and either MATH 2024 or STAT 2013

 B. General Curriculum***

 Block I (6 hours)

 Block II (12 hours)

 Block III (7 hours, including one lab)

II. **Minor**12-15

III. **Major Courses** 30-38

IV. **General Electives**..... 24-37

Total.....124

Bachelor of Fine Arts (B.F.A.)

I. Tulsa Curriculum 52

 A. Core Curriculum

 ENGL 1033, Exposition and Argumentation

 FS 1973, First Seminar

 AS 1001, First Year College Experience

 Senior Project (3 hours)

 MATH 1083 or higher (3 hours)

 Foreign Language (8 hours)**

 Two courses from Blocks I or II *or* second year of foreign language (6 hours)

 B. General Curriculum***

 Block I (6 hours)

 Block II (12 hours)

 Block III (7 hours, including one lab)

II. Minor12

V. Major Courses 54

VI. General Electives..... 6

Total124

*AS 1001 is required for freshman matriculating at TU immediately after graduating from high school.

**Language requirement may vary depending upon placement.

***No more than two courses from any one discipline may be used to fulfill the general curriculum requirements. Two courses must meet the cultural diversity and gender studies requirement.

Certificate Programs

Students in the Henry Kendall College of Arts and Sciences may substitute an interdisciplinary certificate program for a minor field. Certificates are granted in advertising, African American studies, classics, creative writing, international studies, journalism studies, Judaic studies, museum studies, political philosophy, and visual studies. Certificate programs consist of between 18 and 24 credits. If the certificate is being completed in addition to the area of concentration (major and minor), credits may be used to fulfill requirements for both the degree and the certificate. If the certificate is being completed in lieu of a minor, at least 12 hours must solely fulfill requirements for the certificate. Students interested in fulfilling the requirements of a certificate program should consult the director of that program.

Pre-Law

The official statement of the American Association of Law Schools emphasizes that law schools prefer students who are well-rounded in their educational backgrounds, capable of critical, creative thinking, and able to express themselves. No specific undergraduate major is recommended or required. Thus, undergraduates with an interest in pursuing the legal profession usually major in an area of breadth rather than one of specialization, make full use of their electives, and concentrate on courses that emphasize analytical ability and facility with the English language. The University of Tulsa maintains an

active advising system for pre-law students. For additional details, students should consult the College Office of Advising.

Honors Program

Graduating high school seniors with exceptional academic records and a spirit of intellectual curiosity may apply for admission as freshmen to the University's Honors Program. Each student in the Honors Program completes a core of courses, listed on page 84. The courses in the Honors Program core are credited to the student's general curriculum and elective requirements. Honors Program students may choose to major in any academic discipline offered by The University of Tulsa. The Honors Program courses are taken in sequence, rely on primary sources, and promote dialogue with the architects of the modern worldview. Students admitted to the Honors Program receive an academic scholarship. More information about the Honors Program may be found on page 21 of this *Bulletin* or at www.utulsa.edu/academics/Honors-Program.aspx.

Tulsa Undergraduate Research Challenge

The Tulsa Undergraduate Research Challenge (TURC) offers advanced and mature students an opportunity to conduct supervised research beginning in the first semester. Interested students should consult the Arts and Sciences TURC director. For more information on the TURC program in the Henry Kendall College of Arts and Sciences, visit www.utulsa.edu/academics/colleges/henry-kendall-college-of-arts-and-sciences/arts-and-sciences-turc-program.aspx.

Public Service Internships

Qualified undergraduate students in any major may participate in the Henry Kendall College Public Service Internship Program, which is designed to help students explore their interests, obtain practical experience, and prepare for public life. Students intern with governmental agencies, non-profit organizations, health care services, and various arts organizations throughout the city of Tulsa. Public service internships carry three hours of academic credit, and are unpaid. Additional information, including descriptions, evaluations, and applications, is available from the Office of Student Affairs.

Seminars, Independent Research, and Independent Readings

Each department in the College may offer seminars and independent readings at any level for varying amounts of credit. Seminars vary in content and structure according to the design of the instructors. Students who wish to undertake independent research or readings must secure the consent of an instructor to supervise the study. The instructor has the option to accept or reject the projected study. Faculties vary in their policies regarding an instructor's availability for supervising independent work.

Academic Policies

Advising

Each student is assigned a first-year faculty advisor upon enrolling in the College and coordinates his or her schedule with that advisor until declaring a major. Once accepted by a department, the student is assigned an advisor by the department chair. Students

are encouraged to return to the Office of Advising at least once during their junior year and again prior to the second semester of their senior year for a graduation check to ensure the timely completion of all degree requirements. Students may inquire at the Office of Advising at any time with regard to specific needs or issues. The Office of Advising maintains student records, and its professional staff coordinates advising activities within the College.

Advanced Standing

Work completed at other institutions is evaluated by the Office of Advising. Once students have completed 62 hours, no additional work from a junior or community college may be applied toward graduation requirements. The last 45 hours of course work must be completed in residence at The University of Tulsa.

Advanced Placement, International Baccalaureate, and OSSM

Students may earn proficiency or exemption for courses in any degree program by successfully completing a faculty-administered examination.

A list of courses credited for Advanced Placement Examinations is available from the Office of the Registrar. The Henry Kendall College of Arts and Sciences will award at least 30 credits to students in the College who complete the IB Diploma with a score of 28 or above. Some credit may also be available for students completing the IB Diploma with a score below 28. The College will also extend college credit for some High Level examinations and some Standard Level examinations. The amount and kind of credit will be determined by individual departments. The Henry Kendall College of Arts and Sciences awards credit for some mathematics and science courses completed with high scores at the Oklahoma School of Science and Mathematics. Students should consult the College Office of Advising for details.

No more than 36 hours of credit may apply through testing (International Baccalaureate, OSSM, Advanced Placement, or proficiency).

Credit by CLEP examination is not awarded by the Henry Kendall College of Arts and Sciences.

Electives

Beyond meeting core curriculum, general curriculum, and area of concentration requirements, students must complete enough hours in electives to equal at least 124 hours.

- Students with extensive experience in a language other than English must consult the Department of Languages before enrolling in a course in that language. Consult the College Office of Advising office staff for additional information.
- No more than one First Seminar may count toward graduation requirements.
- No electives in the student's major will count beyond the 39-hour limit.
- No electives in the student's area of concentration will count beyond the 55-hour limit.

Pass/D-F Grading Option

A student may take one course per semester on a Pass/D-F basis, provided that the total of Pass/D-F credits for a student does not exceed the 18 Pass/D-F credits that

may be applied toward the degree. The rule of one course per semester for Pass/D-F credit is applicable even if the course is offered only for Pass/D-F credit. Courses graded only as Pass/D-F also count toward the final allowable total of 18 Pass/D-F credits. With the exception of AS 1001, courses included in the core curriculum, the general curriculum, and in the student's area of concentration may not be taken under the Pass/D-F option.

The decision to take a course on a Pass/D-F basis must be made within the first three weeks of a regular semester or within the first 10 days of a summer session. The student must obtain approval in the Office of Advising to take a course Pass/D-F. Deadlines for declaring this option are published in each course schedule.

Statute of Limitation

The policy applies to students in the Henry Kendall College of Arts and Sciences who have left The University of Tulsa before finishing a degree and who later return to the University without having attended another institution of higher education in the intervening period. Those students are allowed to continue their program of study under the curricular requirements that applied to them at the time they originally entered the Henry Kendall College of Arts and Sciences unless more than five years have passed since the completion of their last semester in the College at the University. In the case of the curricular requirements for the major, the student returning within the five-year limit is allowed to declare and to pursue any major that was available at the time the student entered the College as long as the appropriate courses are offered at the University when the student returns.

Core Curriculum

AS 1001 (1 hour)

First Year College Experience

Introduction to college life and academic expectations along with strategies for success. Sections may also provide an overview of the major. For freshman matriculating at TU immediately after graduating from high school.

FS 1973 (3 hours)

First Seminar

Writing requirement. Each incoming student completes a specialized course called a First Seminar during the first year at The University

of Tulsa. The First Seminar provides an intimate atmosphere in which to study with a faculty member and underscores the enduring relationship between writing and learning by requiring several papers to be written during the semester. Prerequisite: ENGL 1033.

4973 (3 hours)

Senior Project

Applies accumulated knowledge and skills to an individual project within the program of study under the direction of selected faculty. Prerequisites: Senior Standing.

Honors Curriculum

HON 1003 (3 hours)

Greek History, Philosophy and Drama

Origins and development of Western Civilization in the ancient world.

HON 1013 (3 hours)

Medieval Culture *or* Self-fashioning in the Renaissance

Continuing origins and development of Western Civilization up to the 15th Century.

HON 2003 (3 hours)

Enlightenment and Its Critics

Intellectual and social revolutions that give shape to the modern world (15th – 19th centuries).

HON 2013 (3 hours)

History and Philosophy of Science

The nature of science and its centrality to modern culture (15th – 19th centuries).

HON 3003 (3 hours)

Modernization and Its Discontents

The consequences of modern social, cultural, political and economic conditions – capitalism, communism, urbanization, secularization, colonialism etc.

HON 3013 (3 hours)

Contemporary and Emerging Issues

Social, cultural, political and economic topics of current interest, including globalization, mass media, west/non-west tensions, current crises, etc.

Anthropology

Chair

Peter G. Stromberg

Professors

Garrick Bailey

Donald O. Henry

Duane H. King

Lamont Lindstrom

Robert B. Pickering

Peter G. Stromberg

Steadman Upham

Michael E. Whalen

Associate Professor

H. Thomas Foster, II

Assistant Professors

Miriam Belmaker

Briggs Buchanan

The program in anthropology, offering a Bachelor of Arts degree, is designed to provide students with a strong general background in anthropology preparatory to graduate studies or employment in fields such as qualitative and applied research, archaeology, foreign relations, international business, international law, and social work. The curriculum requires all students, under the supervision of an anthropology faculty member, to complete a research project in some area of the student's interest. Individual counseling is provided for all students.

Lower division work in anthropology emphasizes the four major divisions of the discipline: physical anthropology, archaeology, cultural anthropology, and linguistics. Upper division courses emphasize archaeology and cultural anthropology, with supporting courses in physical anthropology and linguistics offered at the junior level.

Learning Objectives

There are three learning objectives for anthropology students. The first is career and academic preparation, enabling students successfully to pursue higher degrees in their chosen specialties. The second learning objective is intensive exposure to human diversity, past and present, physical and cultural. This directly supports the third objective, which is to prepare all students to understand and function in an increasingly interconnected world.

Major in Anthropology

Core Requirements

Any course within this group may satisfy general curriculum requirements or major subject requirements in anthropology, but not both.

ANTH 2023, Foundations of Linguistics	3
ANTH 2033, Human Development and Diversity: Physical Anthropology	3
ANTH 2043, Patterns in Culture: Cultural Anthropology.....	3
ANTH 2053, Cultures Before History: Archaeology.....	3
Electives (12 hours required including at least 3 hours in archaeology/physical anthropology and 3 hours in cultural anthropology/linguistics)	12
Archaeology/Physical Anthropology Area: ANTH 2114, 2233, 3133, 4033, 4043, 4113, 4223, 4503, 4513.	
Cultural Anthropology/Linguistics Area: ANTH 1063, 3103, 3123, 3163, 3173, 3443, 4013, 4083, 4093, 4213, 4403, 4633, 4863, 5053.	
Research Methods	3
ANTH 4063, Qualitative Methods in Anthropological Research <i>or</i> ANTH 4053, Archaeological Analysis	
Theory	3
ANTH 4763, History of Anthropological Theory	
Total Hours.....	30

Anthropology majors take ANTH 4973 as their senior project requirement.

Minor in Anthropology

At least 12 credit hours must be completed in a related field with 6 hours at the 3000 level or higher.

Anthropology (ANTH)

1063 (3 hours) Block 2

Culture, People, and Nature: General Anthropology

Survey of the four sub-fields of anthropology: physical or biological anthropology, archaeology, cultural anthropology, and linguistic anthropology, integrated to present a coherent picture of the origins, development, and diversity of humanity and its past and present cultures.

2023 (3 hours) Block 2

Foundations of Linguistics

Basic linguistic concepts and analysis are introduced, including phonetics, phonology, morphology, syntax, and historical linguistics. Emphasis on use of linguistic theories and methods of analysis in describing human cognition, culture, and the social order. Same as ENGL 2293, LANG 2023.

2033 (3 hours) Block 3

Human Development and Diversity: Physical Anthropology

Survey of the sub-fields of biological anthropology: primatology (comparative studies of monkeys and apes), human biology and variability, human fossil evolution, and forensics. Presents an overview of evolutionary theory and genetics and emphasizes interactions of biology, culture, and environment on human biology and behavior.

2043 (3 hours) Block 2

Patterns in Culture: Cultural Anthropology

Human cultural institutions are described and analyzed, drawing examples from non-industrial societies. Emphasis on the ways anthropologists study people, ideas, patterns of behavior, and material life.

2053 (3 hours) Block 2

Cultures Before History: Archaeology

The methods and results of archaeological research are introduced and described. The goals, assumptions, and techniques of modern archaeology are illustrated using prehistoric data from both the Old and New Worlds.

2114 (4 hours) Block 3

Field Archaeology

Introduction to the fundamental techniques and methodologies of field research. Emphasis on survey, site preparation, mapping, and

excavation procedures. One hour of lecture and three hours of laboratory per week. Prerequisite: Permission of instructor.

2233 (3 hours) Block 2

Prehistoric Archaeology of Oklahoma

Native American cultures of the Southern Plains during the 12,000 years before European contact. Includes effects of the region's environment on cultural development from ecological and evolutionary perspectives; regional, cultural, and ecological succession from nomadic mammoth hunters to settled village farmers; and the diversity of eastern woodlands and western cultures.

3103 (3 hours)

North American Indians

Survey of native peoples and cultures of the United States and Canada. Emphasis on the effects of European contacts and problems of modern Indians. Prerequisite: ANTH 2043 or permission of instructor.

3123 (3 hours)

Sociolinguistics

Anthropology of communication, including analysis of speech events, language, status and gender, language and identity, political and economic language, cognitive anthropology, cultural classification systems, and ethnohistory. Students conduct research in the Tulsa speech community. Prerequisite: ANTH 2023 or 2043.

3133 (3 hours)

Human Origins

Explores the process of human biological and cultural evolution through discussion of the chronological, morphological, and cultural contexts of early human species. The biological ancestry of humans is studied in the context of the Darwinian theory of evolution focusing on the interplay between early humans and their environment. Prerequisite: ANTH 2033 or BIOL 1603, or permission of instructor.

3163 (3 hours)

Anthropology and Literature

The extent to which the anthropologist records or creates ethnographic reality. Students read novels and poetry about selected cultures written by both outsiders and insiders. Relations among writing style, genre, and

cultural understanding are investigated.

Prerequisite: ANTH 1063 or 2043; or permission of instructor.

3173 (3 hours)

Gender Across Cultures

A comparative cultural investigation of gender relations and human sexuality in a range of human societies, including the United States.

Same as WS 3173. Prerequisite: ANTH 2043 or permission of instructor.

3443 (3 hours)

Magic, Witchcraft, and Religion

Magic, witchcraft, and religion from a cross-cultural perspective, with emphasis on beliefs and practices of non-Western peoples. Topics include shamanism, sorcery, ritual and symbol, rites of passage, and cult movements.

Attention to the diversity of beliefs and practices and their possible functions in human societies. Prerequisite: ANTH 1063 or 2043, or permission of instructor. Same as REL 3443.

4013 (3 hours)

Methods and Techniques in Museum Anthropology

Methods distinctive to anthropological work in museums and other repositories are examined.

Topics include collections-based research in archaeology and ethnology, collecting, cataloguing, and conserving cultural objects, developing exhibitions, and undertaking community collaborations. Prerequisite:

ANTH 2043 or ANTH 2053; or permission of instructor.

4033 (3 hours)

Archaeology of the Americas

Analysis of sequences and processes of cultural development in the Americas. Early hunting cultures, domestication of plants and animals, elaboration of society, and (where applicable) the rise and collapse of states are evaluated and compared for North, Middle, and South America. Prerequisite: ANTH 2053.

4043 (3 hours)

Old World Prehistory

Examines the prehistoric cultures of Europe, Africa, Asia and Oceania. Sequences of cultural development are defined by considering technological, economic, and social change over the long prehistoric record. Prerequisite: ANTH 2053.

4053 (3 hours)

Archaeological Analysis

Focuses on the principal types of questions in which archaeologists are interested and the analytical techniques necessary to answer them.

The course combines traditional and contemporary issues with a substantial laboratory component. Prerequisite: ANTH 2053 or permission of instructor.

4063 (3 hours)

Qualitative Methods in Anthropological Research

Introduction to qualitative methods of research and analysis such as in-depth interviewing, participant observation, focus groups, and discourse analysis. Students design and implement a qualitative research project.

Prerequisite: ANTH 2043.

4083 (3 hours)

Introduction to Museum Work

Introduces students to museums as organizations and examines career opportunities across the range of museum disciplines, with a particular focus on art, history, and anthropology settings. Museum mission statements, staffing, governance, collections, exhibitions, conservation, registration, community relations, fundraising and other issues central to museum work are examined. Prerequisite: ANTH 2043 or ANTH 2053; or permission of instructor.

4093 (3 hours)

Anthropology of Globalization

Drawing on recent ethnographic and theoretical accounts of global/local connections, students investigate globalization's consequences on local cultures worldwide, including their own, explore the impact of globalization on anthropology's key concepts, especially "culture" and "society," and learn new research methods necessary to understand global forces and their local consequences. Prerequisite: ANTH 2043 or permission of instructor.

4113 (3 hours)

Summer Fieldschool in Archaeology

Practical archaeological experience in site preparation, excavation, and field processing of artifacts. Coordinated lectures and field problems provide an active context for

developing skills of archaeological problem solving. Prerequisite: Permission of instructor.

4213 (3 hours)**Summer Fieldwork in Ethnography**

Practical, closely supervised conduct of social and cultural descriptive research in a field setting. Fieldwork includes archival and bibliographic preparation, interviewing techniques, collection of life histories, collection of language materials (as applicable), field analysis, field record systems. Prerequisite: ANTH 2043.

4223 (3 hours)**Geoarchaeology**

Focuses on understanding the application of geological principles and techniques to the solution of archaeological problems. Principles and techniques employed in geomorphology, pedology, sedimentology, stratigraphy, and geochronology are surveyed as a means for understanding prehistoric human ecology. Prerequisite: ANTH 2053 or permission of instructor.

4403 (3 hours)**Topics in Cultural Anthropology**

Explores a traditional area of inquiry in cultural anthropology. Topics include, but are not limited to, cultural materialism, economic anthropology, culture and personality, political anthropology, culture change, acculturation, and symbolic anthropology. May be repeated for credit when topics vary. Prerequisite: ANTH 2043.

4503 (3 hours)**Topics in Prehistory**

Explores particular theoretical and methodological problem areas in archaeology. Topics may include the origins of food production, approaches to prehistoric demography, the rise of civilizations, prehistoric cultural ecology, or multi-disciplinary research techniques, depending on the interests of students and faculty. May be repeated for credit when topics vary. Prerequisite: ANTH 2053.

4513 (3 hours)**Regional Studies in Prehistory**

Cultural development in selected areas of the world, including the peopling of an area, early and developed hunting cultures, domestication of plants and animals, development of village

life, elaboration of society, technological development, and the origin of states. Semester topics alternate among major geographical areas, depending on research interests of faculty. Course may be repeated for credit when areas vary. Prerequisite: ANTH 2053.

4633 (3 hours)**Regional Studies in Cultural Anthropology**

Examines the economy, technology, social structure, and political organization of native societies. Semester topics periodically include Mesoamerica, South America, Africa, Oceania, and Europe. Course may be repeated for credit when areas vary. Prerequisite: ANTH 2043.

4763 (3 hours)**History of Anthropological Theory**

Survey of anthropological thought from the 19th century to the present, with emphasis on the major evolutionary, historical, psychological, functional, and structural orientations of European and American anthropologists. Prerequisite: 12 hours of anthropology or permission of instructor.

4863 (3 hours)**Contemporary Anthropological Problems**

Current issues in anthropology, with emphasis on recent theoretical developments in cultural anthropology. Prerequisite: ANTH 2043.

4973 (3 hours)**Research Seminar in Anthropology**

Students conduct and present findings from an independent research project. Readings and class discussion explore the conventions of anthropological research and provide direction for student projects. Prerequisite: ANTH 4053 or 4063.

4981, 4982, 4983 (1-3 hours)**Internship/Service Learning**

Internship or service learning participation in a museum or other community organization directed jointly by a faculty member and an advisor from the host institution. Ordinarily also requires completion of an analytical paper, a work diary, or the planning and/or preparation of an exhibit. Required hours/week vary according to course credit hours and specific project. Prerequisite: Permission of advisor.

4991, 4992, 4993 (1-3 hours)**Independent Research**

Prerequisite: Permission of instructor.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5053 (3 hours)**Cultural Property: Ethics and Law**

Provides students pursuing careers in museum work and anthropology a broad background in legal and ethical issues involving the study, use, and management of cultural property.

Addresses issues concerning both tangible property (art objects, archaeological material, human remains, sacred artifacts, and other items of cultural patrimony) and intellectual property (music, song, design, and other cultural knowledge).

School of Art

Director

M. Teresa Valero

Professor

Lowell Baker

Applied Professor

M. Teresa Valero

Associate Professors

Whitney Forsyth

Michelle Martin

Applied Associate Professor

Mark Lewis

Assistant Professors

Daniel Farnum

Aaron Higgins

Maria Maurer

Kirsten Olds

The mission of the School of Art is to create a stimulating environment for the practice, understanding and advancement of the visual arts.

The mission is carried out by:

- Providing students with a thorough understanding of artistic traditions past and present to help them find their place in contemporary artistic practices;
- Encouraging the exploration of innovative artistic techniques and practices in an interdisciplinary environment; and
- Helping students develop sound studio practices by encouraging active involvement in the community.

Our strategic priorities are:

- Cultivating students, faculty, staff and administrators who promote the visual arts as central to culture;
- Maintaining a rigorous yet flexible curriculum that stimulates critical thinking and promotes technical expertise; and
- Investing in facilities and technology that support our mission.

The program in art offers the Bachelor of Fine Arts and the Bachelor of Arts degrees in art with emphases in the studio areas of ceramics, sculpture, graphic design, painting, photography, digital media, and printmaking, and the Bachelor of Arts degree in the academic area of art history. The curriculum for all degrees allows students to develop critical thinking skills and technical expertise in an interdisciplinary environment.

The Bachelor of Fine Arts in art degree enables students to enter professional careers in art and to find their place in contemporary artistic practice. It is the degree most often required for admission to graduate programs offering the Master of Fine Arts degree, which is the most accepted terminal degree in art and the degree required for college-level teaching.

The Bachelor of Arts in art degree certifies that the student has completed a major study in the visual arts as an integral part of a general liberal arts degree program. Career preparation is not the primary objective of the Bachelor of Arts degree; however, it ensures that the student has a broad approach to artistic production.

Teacher certification in art education may be acquired through the Oklahoma State Department of Education by combining the Bachelor of Fine Arts or Bachelor of Arts program with a second major in education. The requirements for a major in education may be found beginning on page 128 of this *Bulletin*.

The Bachelor of Arts in art history offers the student general knowledge about art through the ages and the critical skills to interpret it. This degree prepares the student for entry-level careers in museums, galleries, and arts organizations, in art publishing, and for admission to graduate programs in art history, art conservation and museum studies. The degree also equips students with the critical reading and thinking, visual analysis, and writing skills to pursue a wide range of other careers.

Admission

There is no portfolio admission for students who enter the University at the freshman level and wish to pursue the Bachelor of Fine Arts and Bachelor in Arts in art degrees. All transfer students to the studio art program must submit a portfolio of work for review by the faculty member in the area of emphasis, and acceptance is based on that portfolio review.

General Requirements

Students pursuing the Bachelor of Fine Arts or Bachelor of Arts in art complete the four core course requirements before taking intermediary and upper division courses. In the core courses, students learn basic skills about art-making and develop sound studio practices. The courses form the foundation that will support students as they work towards designing a curriculum in their areas of emphasis.

Students pursuing the Bachelor of Arts in art history complete the two introductory courses before choosing from a broad range of upper division courses. Students are encouraged to study abroad and to pursue internships in their areas of study.

Learning Objectives

Program Objective 1. Students who complete the undergraduate program will demonstrate competency in the practice of discipline-based studio areas.

- a. Develop the expressive aspects of art (realizing creative ideas in visual form and developing a body of work illustrating those creative ideas).
- b. Develop the conceptual aspects of art (producing quality work that exhibits original concepts and is consistent with those concepts).
- c. Develop the formal and technical aspects of art (illustrating a mastery of materials and tools, and having a grasp of how to use and manipulate formal elements and composition for an intended effect).

Program Objective 2. Students who complete the undergraduate program will engage in art critical and art historical thinking and writing.

- a. Articulate ideas and concepts about art in the classroom, during critical discourse.
- b. Conduct historical or critical research on art and express the outcome of that research in writing (engaging with art historical or critical methodologies and writing in standard English).

Program Objective 3: Students who complete the undergraduate program will produce academic, studio, and commercial portfolios needed to succeed in the job market and/or in graduate school programs.

Certificate Programs

The following related certificate programs are described beginning on page 259 of this *Bulletin*: advertising, classics, museum studies and visual studies.

Studio Major (B.A. or B.F.A.)

	B.A.	B.F.A.
Core Courses	12	12
ART 1103, Drawing I		
ART 1183, Design I		
ART 1193, Design II		
ART 2023, Drawing II		
Upper Division Drawing Courses.....	3	6
B.A. required to take one of the following 2 courses. B.F.A. required to take both of the following 2 courses.		
ART 3003, Life Drawing		
ART 3053, Drawing: Advanced Studio		
Intermediary Level Courses	9	9
Both B.A. and B.F.A. are required to take 3 of the following courses, 1 in the area of emphasis:		
ART 2103, Sculpture I		
ART 2113, Painting I		
ART 2123, Printmaking I		
ART 2133, Ceramics I		
ART 2153, Photography I		
ART 3243, Graphic Communication I		
Upper Division Courses		
(3000-4000 level) Area of Emphasis	9	15
(3000-4000 level) Upper Division Electives.....	6	12
Total Hours in Studio Art	39	54
Required Art History Minor	12	12
ARTH 2203 and 2223, Survey of Art History I and II		
Six hours of upper division art history electives		
Total Hours.....	51	66

Art History Major (B.A.)

Core Courses	6
ARTH 2203 and 2223, Survey of Art History I and II	
Upper Division Art History Courses (7 courses)	
Two of the following courses	6
ARTH 3053, Medieval Art	
ARTH/HIST 3643, Italian Renaissance Art I: 1300-1480	
ARTH 3743, Italian Renaissance Art II: 1480-1580	
ARTH 4013, Baroque Art	
Two of the following courses	6
ARTH 3093, American Art	
ARTH 4223, Fauvism to Abstract Expressionism	
ARTH 4023, Art Since Mid-Century	
ARTH 4613, 19th-Century European Art	
Electives (3 courses)	9
Other: Studio or Art History Electives (2 courses)	6
Total	33

Minor in Art

In consultation with an advisor, students take 15 hours in art, including two of the following three courses: ART 1103, 1183, and ART 1193; as well as 9 hours of art history and studio art electives. Three hours in art history is strongly recommended.

Minor in Art History

In consultation with an art history advisor, students take 12 hours in art history. Students are required to take ARTH 2203 and ARTH 2223 and 6 hours of art history upper division electives.

Art (ART)

1013 (3 hours) Block 1

Introduction to Studio Art for Non-Majors

Applied studio art, surveying drawing, painting, and three-dimensional design, with discussion of master artists, contemporary artists, and concepts relevant to present trends in art. Limited to non-majors.

1023 (3 hours) Block 1

Introduction to Printmaking/Etching

Introductory course in Printmaking, focusing on intaglio processes. The following topics will be covered: dry-point, hard ground, soft ground techniques, aquatint (spray paint and rosin), lift grounds, viscosity printing, and multiple plate/color printing.

1103 (3 hours)

Drawing I

An introductory drawing course that develops observation as a tool of discovery. Students explore traditional and contemporary approaches to drawing in a variety of media.

1183 (3 hours)

Design I

Examines accepted elements and principles of two-dimensional design, including color theory, and the rationale behind these principles. Focuses on encouraging inventive and resourceful uses of design principles.

1193 (3 hours)

Design II

Further develops formal understanding of the elements and principles of design, especially in the third dimension. Focuses on innovative visual solutions to design problems in various 2-D and 3-D materials. Prerequisite: ART 1103 or 1183.

2023 (3 hours)

Drawing II

Constructive drawing as the language of visual thinking; drawing as creative metaphor in conceptualizing and delineating three-dimensional forms. Students' cognitive and technical skills evolve from understanding principles of spatial geometry, visual perspective, shades and shadows, and complex permutations of structure. Prerequisite: ART 1103.

2053 (3 hours) Block 1

Icons and Images: The Visual Dialogue

The artist as specialist in visual thinking: a mixture of perception and abstraction, symbol and reality, and imagination, emotion, and intellect. Exploration of various modes of visual thinking through examples of art from several centuries.

2063 (3 hours)

Digital Art: Survey and Practice

Introduction and investigation of the role of digital media in the world of art production and reception. Emphasis on digital media alone or in combination with traditional media as a tool to produce original, expressive works of art. Topics: Communicative art and interactivity with practice of Photoshop, HTML, and Flash. Prerequisites: ART 1103 and 1183. Same as FLM 2063.

2103 (3 hours)

Sculpture I

Introduces the fundamentals of three-dimensional work in a variety of materials, understanding form and the basic elements of sculpture. Prerequisite: ART 1193.

2113 (3 hours)

Painting I

A beginning course that emphasizes visual relationships through the use of color, surface and composition, and on technical procedures and historical traditions. These concepts are explored through the use of still life, interior, landscape and figure. Prerequisites: ART 1103 and 1183; or permission of instructor.

2123 (3 hours) Block 1

Printmaking I

Introduction to the principal printmaking processes (intaglio, relief, and monotype.) Prerequisites: ART 1103 and 1183; or permission of instructor.

2133 (3 hours)

Ceramics I

Introduction to ceramic materials and processes. Emphasis on hand-building and wheel-throwing.

2153 (3 hours)**Photography I**

Introduction to B/W photography, from a working knowledge of the camera to film processing and printing in a darkroom using traditional light-sensitive materials, and to the history of photography. Explores fundamental principles, techniques and application of camera-based image making. Students must have an adjustable camera. Prerequisite: ART 1103 or 1183. Same as FLM 2153.

2263 (3 hours) Block 1**Critical Thinking and the Visual Image**

Merging the lateral thought process with applied processes in the visual arts through drawing techniques in various media and explorations of the discipline of sculpture. Students strive to make the familiar strange and the strange familiar. Attention to development of personal ideas through critical thought techniques.

3003 (3 hours)**Life Drawing**

Application of drawing principles and media to traditional and non-traditional life figure problems. Prerequisite: ART 2023 or permission of instructor.

3013 (3 hours)**Sculpture Studio**

Focus on contemporary issues and a deeper engagement with materials. Development and execution of clear sculptural responses to material-based and topic-based assignments. Prerequisite: ART 2103.

3053 (3 hours)**Drawing: Advanced Studio**

The language of drawing. In-class projects investigate a wide range of media and attitudes toward drawing. Prerequisite: ART 2023 or permission of instructor.

3063 (3 hours)**Printmaking Studio**

Intermediate level work in intaglio, lithography, monotype, relief or serigraphy. Prerequisite: ART 2123 or permission of instructor.

3113 (3 hours)**Web Site Design**

The objective of this course will be met by two areas of study: the students will evaluate and critique web sites (both successful and poorly

designed sites) and during the semester the students will each create two web sites for their design portfolios. Prerequisites: ART 3243, 3443.

3213 (3 hours)**Performance Art**

Explores an art form in which the artist is the primary medium for expressing a notion. Performances range from intimate gestures (solo) to larger scale theatre-type pieces (groups) of varying lengths presented spontaneously or after rigorous rehearsing.

3243 (3 hours)**Graphic Communication I**

Introduction to graphic design as a medium of communication. Promotes appreciation of visual tools and principles that lead to exploration and personal methodology. Techniques of pre-print production, with the use of typography, photography, and illustration. Students are taught the effectiveness of visual communication and its practices in the professional world today. Prerequisite: ART 3443. Same as FLM 3243.

3253 (3 hours)**Graphic Communication II**

Corporate design is the process of creating and disseminating the image or identity for a collective entity. Course involves designing a corporate symbol that is then implemented in stationery, marketing, packaging, architecture, advertising, brochures, billboards, and miscellaneous projects. A designer must create the personality/voice for a company. Prerequisite: ART 3243.

3273 (3 hours)**Typography and Graphic Production**

All aspects of typography are covered through lectures, demonstrations and studio work. Creative thinking is encouraged. Strong emphasis on the technical problem-solving and aesthetic use of display and text type. Prepares the student for significant design challenges in virtually all areas of communication design. Prerequisite: ART 3243.

3293 (3 hours)**Package Design**

Explores graphic design for three-dimensional formats such as packaging, point-of-purchase display, exhibition graphics and container design. Marker and finished comprehensives

are executed for advertising and specialty graphics. Clarifies the process of developing graphic and visual articulation in package design. Prerequisite: ART 3243.

3313 (3 hours)**Photography II**

Focuses on controlling all aspects of photographic image making. Examines contrast control, the zone system, exhibition size and scale, different papers and film, toning, studio lighting, and alternative cameras. Prerequisite: ART 2153 or permission of instructor.

3323 (3 hours)**Digital Photography**

Students learn to use a digital camera, utilize Photoshop, and make inkjet prints. Emphasis on project development and an understanding of contemporary trends in the medium. Students will need access to a DSLR camera. Prerequisite: ART 2153 or permission of instructor. Same as FLM 3343.

3343 (3 hours)**Advertising Design Concepts**

Explores how art directors and copywriters work together in the formulation of advertising creative. Promotes understanding of the correct target market(s) in terms of identifying and creating the proper strategic communication for all required media vehicles. Prerequisite: ART 3243. Same as COM 3243.

3443 (3 hours)**Digital Painting with Photoshop**

Techniques and visual vocabulary of contemporary illustration, focusing on today's dominant image generating application, Adobe Photoshop. Lessons begin with generating basic shapes, textures, and lighting, and rendering objects, layering and creating montage effects. Images are used in combination with type design in real world illustration assignments and individual creative projects. Prerequisite: ART 1103 or THEA 1223. Same as FLM 3443.

3453 (3 hours)**Advertising Design**

Through lectures, field trips, demonstrations, and studio work, students explore all facets of realistic advertising campaigns. Proceeds from market research and sound, valid visualizations for advertising media through comp

presentations. Students gain familiarity with methods of creating original advertising concepts via text and image. Prerequisite: ART 3243.

3463 (3 hours)**Adobe Illustrator**

Techniques and visual vocabulary of digital vector illustration and typography using the graphic application Adobe Illustrator. Lessons begin with generating basic linear shapes, patterns, gradations, and blends. We then move on to combinations of Adobe Illustrator and Adobe Photoshop. Some real world illustration problems will be assigned. Prerequisite: ART 3443 or permission of instructor. Same as FLM 3463.

**3991, 3992, 3993, 3994, 3995, 3996
(1-6 hours)****Independent Study****4012, 4013, 4014, 4015, 4016 (2-6 hours)****Sculpture Studio**

Provides an advanced studio experience in three-dimensional work investigating materials, media, installations, site specificity, scale, formats, or series. Prerequisite: ART 3013.

4032, 4033, 4034, 4035, 4036 (2-6 hours)**Painting Studio**

An advanced course that encourages experimental approaches to painting through study of historical and contemporary painting. Exploration of color, surface and composition. Prerequisite: ART 1103 or ART 2123 or permission of instructor.

4062, 4063, 4064, 4065, 4066 (2-6 hours)**Printmaking Studio**

Printmaking utilizing advanced techniques and concepts in the areas of relief, intaglio, lithography, serigraphy, or monotype on individual problems. Prerequisite: ART 3063.

4072, 4073, 4074, 4075, 4076 (2-6 hours)**Portfolio: Graphic Design**

The student's job-seeking portfolio is the major focus of lectures, demonstrations and studio work. Existing projects are refined and incomplete portfolios are completed with new projects. All projects meet professional standards with emphases on quality and job related subject matter. Students work on résumés, job interviews, and personal projects.

Prerequisites: ART 3113, ART 4903, and permission from the instructor.

4152, 4153, 4154, 4155, 4156 (2-6 hours)
Photography Studio

An exploration of advanced photographic materials, equipment, and critical theory. Incorporates topic lectures, assigned readings, routine critiques, and visiting artists. Students are expected to develop a long-term project. Graduate school, professional studio practices, and career options are discussed. Prerequisites: ART 2153, ART 3313 and ART 3323/FLM 3343, or permission of instructor.

4182, 4183, 4184, 4185, 4186 (2-6 hours)
Ceramic Studio

Advanced problems in the use of clay as a medium of expression. Explorations include hand-building, wheel-throwing and glaze formulation at various temperature ranges. Semester course emphasis is listed on schedule of courses.

4253 (3 hours)
Interactive Multimedia

Study of the principles and fundamental techniques for creating multimedia projects that explore their potential for critical artistic expression. Examines issues specific to onscreen interaction and time-based media. Tools such as Flash, Dreamweaver, and other supporting programs will be covered. Students investigate alternative art discourses using interactive digital technologies. Prerequisites: ART/FLM 3443, ART/FLM 3463, or permission of instructor. Same as FLM 4253.

4263 (3 hours)
Digital Video and Animation

Students use the computer as a creative tool and incorporate digital media in their process and delivery format. Projects may include digital photography, mixed media, digital video, animation, and sound editing. Intended for students who would like to improve their sense of observation, timing, and motion through video/animation techniques. Prerequisite: ART/FLM 4253. Same as FLM 4263.

4433 (3 hours)
Advanced Web Site Design/FLASH

The objective of this course centers on the power of web motion graphics. The students learn to manipulate these programs and learn

the importance that design plays in this process. The class is about communication rather than technology. Prerequisite: ART 3113.

4443 (3 hours)
National Student Advertising Competition

By invitation only. Top marketing, advertising, graphics, and broadcast production students will represent The University of Tulsa at this prestigious event held each year in April. Destinations for presentations vary among four states included in the 10th District of the American Advertising Federation (AAF). Prerequisite: Permission of instructor. Same as COM 4443.

4803 (3 hours)
Special Topics in Design

Working with a professional in graphic design, students pursue particular and significant change in the technique and business in the area of design. Group instruction and an individual project. Subjects vary according to instructor's area of expertise, i.e. high definition printing, pre-press output, setting up work to reproduce on different platforms, etc. Prerequisite: ART 3243.

4901, 4902, 4903, 4904, 4905, 4906
(1-6 hours)

Internship

On-the-job training in a professional environment. The senior may enroll on the recommendation of his or her advisor. By arrangement only. Prerequisite: ART 3273 and permission of instructor.

OR

In-house design studio that closely approximates the working environment of a professional design/advertising studio (e.g., client meetings, deadlines, budgets, and production). With faculty guidance, students design projects from concept to actual production. Clients are primarily non-profit organizations such as the United Way agencies. Prerequisite: ART 3273 and graphic design junior or senior, or permission of instructor.

4973 (3 hours)
Senior Seminar

4991, 4992, 4993, 4994, 4995, 4996
(1-6 hours)

Independent Study

Prerequisite: Permission of instructor.

Art History (ARTH)

2203 (3 hours) Block 1

Survey of Art History I

Western art and architecture from prehistoric times through the Middle Ages. Explores basic artistic principles and vocabulary, specific examples of works, and the historical and social context from which these works emerged. Provides the background to take more advanced art history courses and ability to critically assess works of art.

2223 (3 hours) Block 1

Survey of Art History II

Western art and architecture from Proto-Renaissance through 20th century, introduces basic artistic principles and vocabulary, specific examples of art and architecture, discuss historical, social context from which work emerged. Provides background for more advanced art history courses; develops ability to critically assess art by placing it into proper historical context.

3013 (3 hours)

History of Photography

This course surveys the history of photography and the discourses shaping it from the 19th century to the present, with an emphasis on key technological and artistic developments. Students will hone skills of visual analysis, including formal and contextual methods, psychoanalysis, and postmodern and postcolonial theory. Lecture and discussion. Prerequisite: ARTH 2223.

3053 (3 hours)

Medieval Art

Examination of the visual arts of various media from the Early Christian period to the Gothic period, c. 300-1300, including the Byzantine, Islamic, Migration, Carolingian, Ottonian and Romanesque arts, with a focus on the theological, social and political forces that molded their production and reception. Prerequisite: ARTH 2203.

3093 (3 hours)

American Art

Seventeenth to 21st century. Places art into broader cultural, historical, social, political context, examining discourses that shaped American art: mapping new terrain, defining America, representing republican virtue, nature

and nation, art and commerce, machine aesthetics, and modernism, defining identities in a multicultural America, from Cold War to culture wars.

3133 (3 hours)

Greek and Roman Art

Examination of Greek art from the Archaic to the Hellenistic period and Roman art from the Early to the Late Empire. Offers a critique of the historiographic presentation of Greek works of art as developmentally progressive and an examination of the use of Roman form and content for political purposes. Prerequisite: ARTH 2203 or permission of instructor.

3353 (3 hours)

History of Prints

Exploration of printmaking from c. 1400 to 1800, from woodcut to lithography, with an emphasis on the social and political uses of prints.

3643 (3 hours)

Italian Renaissance Art: 1300-1480

Explores the development of art and architecture produced in Italy from 1300 to 1480. Examines works of art, architecture, and material culture within their broader social and historical context in an effort to better understand the works and the people who made and viewed them. Prerequisites: ARTH 2023 or ARTH 2223 or permission of instructor. Same as HIST 3643.

3743 (3 hours)

Italian Renaissance Art II: 1480-1580

Explores the development of art and architecture produced in Italy from 1480 to 1580. Examines works of art, architecture, and material culture within their broader social and historical context in an effort to better understand the works and the people who made and viewed them. Prerequisites: ARTH 2023 or ARTH 2223 or permission of instructor.

4013 (3 hours)

Baroque Art

Analysis of the full range of visual arts (e.g., painting, sculpture, architecture, stage design, interior decoration, garden's, prints, etc) of Italy, France and Spain (primarily), from 1600 to 1750, accessing the social, political and

religious contexts in which these works were created. Prerequisite: ARTH 2223 or permission of instructor.

4023 (3 hours)

Art Since Mid-Century

Art and visual culture from mid-20th century to present, including Pop Art, Minimalism, conceptual art, land art, postmodernism, tactical media, and relational aesthetics. Places art into broader cultural, historical, social, political context, examining issues such as the development of new media; the changing status of the art object and the art market; the role of the artist; the relationship between artwork, artist, and viewer; and globalization. Prerequisites: None, but ARTH 2223 strongly recommended.

4033 (3 hours)

Cultural Responses to War in the 20th Century

Interdisciplinary course examines the methods that individuals in the 20th century have adopted to document, decry, and honor war. It focuses on three moments of cultural response to trauma: modernist production in World War I, West Germany during World War II, and American reactions to the Vietnam War. Prerequisites: ARTH 2203, ARTH 2223, or permission of instructor.

4223 (3 hours)

Fauvism to Abstract Expressionism

Art and visual culture from the turn of the 20th century through mid century, including Fauvism, Cubism, Constructivism, Dada, Surrealism, and Abstract Expressionism. Examines the various discourses that shaped twentieth-century art and the analysis of it, such as modernism, the avant garde, psychoanalysis, social history, and semiotics. Prerequisite: ARTH 2223 or permission of instructor.

4323 (3 hours)

Northern Renaissance Art

Painting, sculpture, and printmaking of Northern Europe in the 15th and 16th centuries. In the Netherlands, emphasis on Jan Van Eyck, the development of the Eyckian tradition, and the complex iconographic language of Bosch and Bruegel; in Germany, emphasis on Dürer, Grunewald, and the

Danube School. Prerequisites: None, but ARTH 2223 strongly recommended.

4353 (3 hours)

17th-Century Dutch and Flemish Painting

Examination of the form and content of the two-dimensional arts of the Protestant Northern Netherlands and the Catholic Southern Netherlands, with a focus on the art patronage system and the art market as they shape the painting of the 1600s. Prerequisite: ARTH 2223.

4403 (3 hours)

Topics in Cultural Art History

Examination of a special topic in art history. Prerequisite: ARTH 2203 or ARTH 2223 or permission of instructor.

4593, 4594, 4595, 4596 (3-6 hours)

Museum Internship

Provides practical experience in an art museum or gallery setting. Engagement with more than one museum task, such as exhibition research and installation, collection management, and education and community outreach.

Prerequisites: ARTH 2203, 2223 and 2 upper-level art history courses or permission of instructor. Only 3 hours count towards the major; does not count towards the minor.

4613 (3 hours)

19th-Century European Art

Art and architecture from 1780 to the turn of the 20th century, from Neo-Classicism to Post-Impressionism. Places art into broader cultural, historical, social, and political context, examining various discourses that shaped 19th-century art, especially in France: the Enlightenment and French Revolutions, classical revival, rise of Romanticism, encounter with new cultures, industrialization and urbanization, and the emergence of the avant-garde. Prerequisite: None, but ARTH 2223 recommended.

4673 (3 hours)

Seminar in Art History

In-depth examination of topic through extensive reading, in-class discussion and independent research projects. Prerequisite: ARTH 2203, ARTH 2223 and at least one upper level art history course, or permission of instructor.

4803 (3 hours)

Special Topics in Art History

Examination of a special topic in art history.

Prerequisite: ARTH 2203 or ARTH 2223 or permission of instructor.

4973 (3 hours)

Senior Project

In-depth examination of topic through extensive reading, in-class discussion and

independent research projects. Prerequisites: ARTH 2203, ARTH 2223 and permission of instructor.

4993 (3 hours)

Independent Study

Independent research on a specific topic in the history and criticism of art conducted under guidance of faculty. Prerequisite: Permission of instructor.

Arts Management

Director

Joseph L. Rivers, Music and Film Studies

The Bachelor of Arts in arts management curriculum outlined below provides an interdisciplinary program in arts management, business, performing arts and an area of artistic specialization in art, film, music, or theatre. The degree prepares students for careers in arts organizations, arts related businesses and graduate study in arts management. Students are also required to complete an arts management internship as a capstone experience to practically apply the concepts and techniques learned in the classroom. Semester internships may be completed locally, regionally, nationally, and/or internationally through special arrangements.

All students complete the following core studies in arts management. Because of the interdisciplinary nature and the number of courses required for the major, students in arts management are required to have a minor in advertising.

Arts Management Core Studies (27 hours)

AM 1110, Arts Experiences	8 semesters
AM 1012, Introduction to Arts Organizations	2
AM 3011, 3021, 3031, Arts Practicum I, II, III	3
AM 3013, 3023, Arts Administration I, II	6
AM 4613, 4623, Arts Internship I, II	6
AM 4973, Senior Seminar.....	3
COM 2013, Communication Systems <i>or</i>	
COM 2123, Mass Communication and Society.....	3
COM 3623, Public Relations Cases and Campaigns <i>or</i>	
COM 3633, Writing for Public Relations	3
MIS 1001, Introduction to Spreadsheets	1

Recommended Electives:

BL 3043, Law and Not-for-profit Organizations.....	3
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Students complete one artistic specialization track in visual art, music, theatre or film studies. Students may also, with permission of an arts management advisor, select a generalist track.

Visual Art Track (18 hours)

ARTH 2203, 2213, Survey of Art History I, II	6
ARTH 3000-4000 Level	3
ART 3000, Studio Art (maximum 3 hours) and/or Art History Electives	3
3000 – 4000 level Electives	6

Music Track (18 hours)

Freshman level Music Theory - choose from MUS 1003, MUS 1013, MUS 1023	6
3000 – 4000 level Music History and/or Music Literature	3-6
Music Ensemble.....	1-3
Applied Music	1-2
Music Electives	6

Theatre Track (18 hours)

THEA 3011, Stage Management	1
THEA 2213, A Cultural History of Theatre	3
One of the following two courses:	
THEA 2333, Acting.....	3
THEA 2351, Stage Technology I	1
THEA 2391, Stage Technology II	1
THEA 3043, Modern Theatre.....	3
THEA 3000 – 4000 level Electives	3-6

Film Studies Track (18 hours)

FLM/ENGL 2273, Film History.....	3
FLM 3283, Film Theory and Criticism	3
3000 – 4000 Electives from list of Film Studies Electives beginning on page 147	12

Students are required to take the following block courses in their core curriculum depending on their arts management track. Block courses are not counted as hours in the major.

Designated Block I Requirement (6 hours)*

*Music track take ARTH 2203 or ARTH 2223 and THEA 1063;
 Art/film track take THEA 1013 or THEA 1063, and MUS 2073;
 Theatre track take ARTH 2203 or ARTH 2223, and MUS 2073

Designated Block II Requirement (6 hours)

ECON 2013, Principles of Economics I: Macroeconomics	3
ECON 2023, Principles of Economics II: Microeconomics	3

Arts management students are required to complete an advertising certificate.

Required Advertising Minor (15 hours)

COM 3433, Principles of Advertising.....	3
COM 3443, Advertising Campaigns.....	3
COM 3453, Media and Concept Strategy.....	3
ART 3243, Graphic Communication I	3
ART 3443, Digital Painting with Photoshop	3

Arts Management (AM)

1012 (2 hours)

Introduction to Arts Organizations

Examines the structure and function of the various essential components of arts organizations. Classroom discussions are complemented by visiting local arts agencies and organizations on site, to study their particular missions, functions and compositions.

1110 (0 credit)

Arts Experiences

Arts management majors are required to complete this course on a pass-fail basis for each semester after declaring the major. Attendance and/or participation in 12 events (concerts, recitals, stage plays, musicals, art exhibitions, etc.) on and off campus, per semester are required.

3011, 3021, 3031 (1 hour each)

Arts Practicum I, II, III

Students complete specific projects and assignments within Art, Theatre and Music during separate semesters. Supervising professors in each discipline monitor and mentor the responsibilities and projects.

3013, 3023 (3 hours each)

Arts Administration I, II

A two consecutive semester, in-depth study of the artistic, organizational, business functions and daily operations of general management concepts, budgeting, compensation, risk management, public relations, community support, staff and board development, with special attention to fundraising and grant writing.

4613, 4623 (3 hours each)

Arts Internship I, II

A practical capstone experience that provides professional hands-on experience in the field. The internship is monitored by Division faculty and includes the option and/or combination of local, regional, national or international placement in London. Approval of program director is required.

4973 (3 hours)

Senior Seminar

Senior capstone project. Prerequisite: Approval of arts management advisor.

Chinese Studies

Director

Kalpana Misra, Political Science

The Bachelor of Arts in Chinese studies is an interdisciplinary program drawing from the disciplines of political science, history, literature and language, business, and economics to prepare students for a variety of professional careers and academic programs related to China. The Chinese studies program, as a minor or second major in combination with other disciplines such as education, finance, or any of the engineering specialties, will offer TU students the means to enhance their understanding of China globally as well as locally in their discipline.

Course Requirements

Beginning Chinese (CHIN 1004 and 1014) and Intermediate Chinese (CHIN 2003 and 2013) or their equivalents are prerequisites for the major and minor. The major consists of 30 credit hours, of which at least eighteen hours must be at the upper-division level (3000 and 4000-level courses); these will normally include a minimum of twelve hours in advanced Chinese. Courses must be taken from at least three disciplines. In addition, a three-hour senior project on a China-related topic must be completed through one of the participating departments.

Students of the major will be encouraged to complete a study abroad program in China for at least one semester.

Core Courses (9 hours)

HIST 2613, China and Japan from Antiquity to 1800

HIST 2623, China and Japan since 1800

POL 2043, Politics and Culture of China

Electives (21 hours)

The remaining twenty-one credits may be completed from the following list of electives. Courses should be taken in at least three different disciplines and no less than eighteen credits must be at the 3000 and 4000 level.

CHIN 3113, Chinese through Literature I

CHIN 3133, Untimely Meditations: A Chinese Perspective

CHIN 3143, Modern Poetry Prose

CHIN 4123, Chinese Microblogging

CHIN 4143, Contemplative Cinema: The Chinese Contribution

CPLT 2343, The Dilemma of Modernity

ECON 2073, Introduction to the Chinese Economy

ECON 3253, The Chinese Economy

HIST 3233, Chinese History through Film

HIST 3663, Reform and Revolution in Modern China

HIST 4863, Topics in East Asian History

IB 4013, Topics in International Business (China)

POL 3273, Chinese Politics

Minor in Chinese Studies

The minor in Chinese Studies requires twelve credit hours, with at least six completed at the upper level.

Communication

Chair

Mark Brewin

Professor

Joli Jensen

Applied Professor

David L. Moncrief

Associate Professors

Mark Brewin

John M. Coward

Assistant Professor

Benjamin J. Peters

The communication program's strong liberal arts orientation equips students for a variety of professional opportunities in communication as well as graduate study in communication, law, business administration, and other areas. With appropriately chosen electives, students can prepare themselves for careers in media studies, public relations, advertising, journalism, visual studies, and related fields.

Students pursuing a major in communication typically choose the B.A. degree. Communication majors who wish to choose the B.S. degree must petition the faculty chair for permission.

The three core courses in the major provide a strong background in communication, covering topics ranging from symbolic processes and systems to theories and philosophy of communication research. Majors also choose three of the four foundation courses that emphasize the larger social consequences of communication. Working with their advisors, communication majors develop an 18-hour emphasis in a particular area of the discipline. Communication majors may, with the approval of their advisor, develop their own individualized emphasis in communication.

Learning Objectives

Students who complete the undergraduate program in communication are expected to be able to:

- Evaluate and critique the central theoretical concepts in the study of communication;
- Use and understand basic social science methodologies;
- Effectively use writing to convey their ideas;
- Demonstrate a basic competence in oral communication;
- Critically engage with the world of visual and digital communication; and
- Fully realize both their rights and their responsibilities as citizens within a modern world.

Major in Communication

Core Courses 9

- COM 2013, Communication Systems
- COM 3103, Theories of Communication
- COM 3113, Inquiry in Communication

Foundation Courses (three of the following) 9

- COM 2353, Political Communication
- COM 2423, News and Society
- COM 2523, Communication Technology and Society
- COM 2893, Media and Popular Culture

Electives (chosen with advisor from the following areas of emphasis) 18

Media Studies Emphasis

- COM 2723, Native Americans and the Popular Imagination
- COM 2943, Introduction to Digital Studies
- COM 3013, Mediated Meaning: Authenticity, Celebrity, Tourism and Style
- COM 3223, Bestselling Feminisms
- COM 3293, Media and Games
- COM 3483, Principles of Visual Communication
- COM 3733, Global Media
- COM 3863, Media History
- COM 4813, Analysis of Media

Advertising/Public Relations Emphasis

- COM 3243, Advertising Design Concepts
- COM 3433, Principles of Advertising
- COM 3443, Advertising Campaigns
- COM 3453, Media and Concept Strategy
- COM 3623, Public Relations Cases and Campaigns
- COM 3633, Writing for Public Relations
- COM 4443, National Student Advertising Competition
- COM 4543, Branding

Journalism Emphasis

- COM 3023, Documentary Expression in Film and Video
- COM 3233, Writing Nonfiction
- COM 3413, News Gathering
- COM 3473, Video Production: Studio
- COM 3523, Editing for Print Media
- COM 3573, Video Production: Location
- COM 3873, History and Philosophy of Free Expression
- COM 4113, Documentary Workshop

General Communication Emphasis

- COM 2113, Public Communication
- COM 2913, Organizational Communication and Society
- COM 3313, Theory and Practice of Persuasion
- COM 3933, Organizations and their Publics
- COM 3943, Interviewers and Interviewing
- COM 4613, Internship
- COM 4893, Topics in Communication
- COM 4943, Analysis of Communication in Organizations

Minor in Communication

To pursue a minor in communication, students must take COM 2013, Communication Systems; COM 3103, Theories of Communication; and at least two other upper-division courses in communication.

Communication (COM)

1103 (3 hours) Block 2

Persuasive Influences in America

The processes whereby persuasive messages are created, targeted for particular audiences, and evaluated for their effects.

2013 (3 hours)

Communication Systems

Introduces theory and research on the relations between symbol systems, culture, and communication.

2113 (3 hours)

Public Communication

Examines and provides guided experience in two person, group, and public communication in several common professional and community situations. Emphasis on listening, adapting messages to different audiences, organizing messages, and providing support for one's positions on issues.

2123 (3 hours)

Mass Communication and Society

Analyzes the social, economic, and political implications of modern societies' reliance on mass communication, including ways in which the mass media provide images of our world.

2353 (3 hours) Block 2

Political Communication

This course addresses the central problems that have puzzled scholars over the centuries, and continue to puzzle them, concerning the communication of political matters: issues such as the relationship between rhetoric and manipulation, the differences between communication in democratic vs. non-democratic societies, and the role that various technologies play in changing how we think both about politics and about communication.

2423 (3 hours) Block 2

News and Society

Course examines the role of news and journalism in the history and development of

American democracy and analyzes the political origins of the U.S. news media as well as the ideology of journalism and the social consequences of news making as it has evolved over the course of U.S. history.

2523 (3 hours) Block 2

Communication Technology and Society

Addresses the role of new communication technologies and society by exploring the nature and consequences of shifts from oral to print to electronic communication systems.

2723 (3 hours) Block 2

Native Americans and the Popular Imagination

Explores myths, stereotypes, and cultural patterns that have affected Native Americans for the past 500 years. Discusses the complex relationship between Native Americans and American culture since Columbus, focusing on the history and evolution of European culture's imagination of and interaction with native peoples of the Western Hemisphere.

2893 (3 hours) Block 2

Media and Popular Culture

Analyzes the origins and significance of modern debates over popular culture. Offers methods by which to interpret mass media products such as news, television, films, and recorded music as forms of culture.

2913 (3 hours)

Organizational Communication and Society

Communication as affecting and affected by organizational climate, policies, structures, and environment, including barriers to communication flow and accuracy, interpersonal dynamics and hierarchies, intra- and inter-group conflicts, and personal and organizational change. Prerequisite or corequisite: COM 2013.

2943 (3 hours)**Introduction to Digital Studies**

Introduces and examines the emerging field of digital studies, particularly digital media and communication studies. The course examines ways that information, technologies, tools, and media impact modern society. It simultaneously teaches critical thinking, theory, history and practice central to life and work in the digital age.

3013 (3 hours)**Mediated Meaning: Celebrity, Tourism and Style**

Explores three key elements in postmodern experience: celebrity, tourism and style. Through reading, discussion and applied examples of these topics, we analyze how we shape, and are shaped by, mediated meaning in the postmodern era.

3023 (3 hours)**Documentary Expression in Film and Video**

Hands-on experience and editing skills for documentary video production. Students analyze documentary structure and become more critical viewers; learn the traditions of documentary; and learn to select subjects, edit material to achieve the strongest effects, and devise sound and music as crucial elements of documentary filmmaking. Same as FLM 3023.

3103 (3 hours)**Theories of Communication**

A survey of dominant theories of language and meaning, information and persuasion, as well as contextual theories of interpersonal, group, organizational, and mediated communication. Theorizing as a useful logical tool for extending the findings of research. Prerequisite: COM 2013.

3113 (3 hours)**Inquiry in Communication**

A survey of approaches to acquiring and validating knowledge about human communication. Examines how research questions are posed and appropriate methods of inquiry selected. Assesses the strengths and limitations of critical, qualitative, and quantitative methods. Student projects integrate inquiry methods with research and analysis of published literature. Prerequisite: COM 2013.

3163 (3 hours)**Advocacy Journalism**

Explores the emergence of, and rationale for, participatory journalistic practice as well as the resistance to community-oriented, subjective journalism.

3193 (3 hours)**Media, Culture and Power**

Explores the contribution of the Frankfurt School to contemporary cultural and social criticism. Begins with key works by German-Jewish émigré intellectuals, continues with essays from the 1950s and 60s, and ends with current books on media, culture and power. Prerequisite: Junior standing or permission of instructor.

3223 (3 hours)**Bestselling Feminisms**

Feminism, as a social movement, offers us a powerful example of how ideas circulate and develop in and through the media. Using readings, discussion, interviews and media analyses, this course explores widely popular accounts of women's personal, social, cultural and political options from 1960 to the present. Same as WS 3223.

3233 (3 hours)**Writing Nonfiction**

A creative writing workshop focused on telling true stories.

3243 (3 hours)**Advertising Design Concepts**

Explores how art directors and copywriters work together in the formulation of advertising creative. Promotes understanding of the correct target market(s) in terms of identifying and creating the proper strategic communication for all required media vehicles. Prerequisite: ART 3243. Same as ART 3343.

3293 (3 hours)**Media and Games**

The purpose of the course is to examine the relationship between media and the human activity of play. The latter concept, being a fairly abstract one, will be discussed in this course mainly in reference to distinctively modern forms of human play, such as sports and computer games.

3313 (3 hours)**Theory and Practice of Persuasion**

Principles and methods of persuasion and social influence, with practice in the preparation and analysis of persuasive messages, persuasive campaigns, and media persuasion.

3323 (3 hours)**Interpersonal Communication**

Analyzes processes involved in interpersonal communication; includes examination of communication variables that define, sustain, and change interpersonal relationships. Same as WS 3323.

3333 (3 hours)**Small Group Communication**

Application of theory and research, with emphasis on decision-building groups, group development processes, leadership and followership, conflict management, alternatives to group discussion, and consensus process and outcomes. An extended simulation and shorter exercises provide application opportunities.

3343 (3 hours)**Communication and Conflict Management**

The relationship between communication and human conflict, and communicative strategies that may be used to manage conflict situations.

3413 (3 hours)**News Gathering**

Development of skills and understanding in communicating news and information to various audiences. Emphasizes the role of news gatherer and reporter in organizing and presenting facts and background for audiences. Offers experience in many types of news. Two hours lecture and two hours lab each week.

3433 (3 hours)**Principles of Advertising**

Introduction to principles of advertising and advertising's relationship to both the mass media and the marketing process. Surveys the historical aspect of advertising, creative production, and media planning.

3443 (3 hours)**Advertising Campaigns**

Students are divided into "real world" advertising agency teams. Teams are assigned legitimate accounts and are challenged with

semester-long projects that, if executed properly, may actually be used by the clients. Perfect opportunity for portfolio building. As close to working in an advertising business environment as possible.

3453 (3 hours)**Media and Concept Strategy**

Utilizing "real world and real time" clients (mostly pro bono accounts), students are elevated to the next level of creative concept and media evaluation; emphasis placed on market/consumer/media research, concept brainstorming, competitive analysis, and print and broadcast creative executions, culminating in a full scale, comprehensive presentation to the client(s).

3473 (3 hours)**Video Production: Studio**

Writing, performance, and technical production of video programs and program segments in the studio. Emphasis on a studio-laboratory setting. Applications include broadcast or corporate television news writing, interviewing, and production. Same as FLM 3473.

3483 (3 hours)**Principles of Visual Communication**

The nature of visual communication, including perceptual limitations, visual literacy, and visual communication's impact on social reality. Emphasis on the evolution, emergence, and impact of visual media as well as strategies for analyzing visual media. Same as WS 3483.

3493 (3 hours)**Feature Writing**

Writing features for newspapers, magazines, and in-house publications, with examination of the requirements, objectives, and readership of each.

3523 (3 hours)**Editing for Print Media**

Preparation of written copy for such media as newspapers, magazines, and newsletters. Includes editing of photographs for publication and a study of the principles, standards, practices, and ethical responsibilities of editors. Prerequisite: COM 3413 or 3633 or permission of instructor.

3573 (3 hours)**Video Production: Location**

Writing, performance, and technical production of video programs in non-studio settings. Applications include broadcast or corporate script writing, electronic news gathering, training videos, and television 'magazine' features. Same as FLM 3573.

3623 (3 hours)**Public Relations Cases and Campaigns**

Analysis and critique of actual and simulated public relations problems, programs, and campaigns. Student teams research, plan, and make proposals for campaigns or programs. Emphasizes analysis, goal setting, planning, and awareness of multiple roles of assessment and evaluation. Prerequisite: COM 3633 or permission of instructor.

3633 (3 hours)**Writing for Public Relations**

Entry-level professional course covering basic techniques of news writing as well as strategies for researching, organizing, and writing effective memos, letters, and reports.

3733 (3 hours)**Global Media**

Introduces and examines the global development of media history and international contexts. Critical emphasis is paid to globalization theories and the comparative history of information technologies, economics, and political, cultural, and media systems.

3863 (3 hours)**Media History**

Analyzes social and political consequences of historical changes in communication technology, from oral communication to writing and print to electronic media. Topics include oral communication, the nature of literacy, printing and the rise of democracy, and the mythos of the information society.

3873 (3 hours)**History and Philosophy of Free Expression**

Survey of the history of ideas concerning free expression. Examination of the history and philosophy of such issues as the ideology of journalism, media ethics, the First Amendment, broadcast regulation, and the many discourses concerning expression, control, and regulation.

3933 (3 hours)**Organizations and Their Publics**

Theoretical perspectives on how organizations communicate with various publics and examination of how different organizational environments, structures, and technologies influence organizational communication programs with employees, media, consumers, local communities, investors, and government. Prerequisite or corequisite: COM 3913 or permission of instructor.

3943 (3 hours)**Interviewers and Interviewing**

Planning, perceptual, and relational factors that affect interview success. Emphasis on information-gathering, information-giving, and supervisor-subordinate interviews. Role-plays, field depth interviews, and participation in a survey research project provide occasions to develop critical abilities and skills.

4113 (3 hours)**Documentary Workshop**

History, philosophy and practice of documentary journalism in the United States. Interviewing, writing and producing publication-quality documentary journalism in the field. Same as FLM 4113.

4443 (3 hours)**National Student Advertising Competition**

By invitation only. Top marketing, advertising, graphics, and broadcast production students will represent The University of Tulsa at this prestigious event held each year in April. Destinations for presentations vary within the 10th District of the American Advertising Federation (AAF). Prerequisite: Permission of instructor. Same as ART 4443.

4543 (3 hours)**Branding**

Humans make decisions and act on perceptions, real or imagined. In the marketplace, our perceptions of brands-products, and the companies behind them-drive our buying behaviors. Branding is the study of those perceptions, how they come to be, and how to influence them as communications professionals. The course is designed to teach how to see brands. Prerequisite: COM 3433.

4613 (3 hours)**Internship**

Applies knowledge and skills in approved organizations on or off campus within various media-related or communication-oriented settings. Some internships result from national, competitive programs. Prerequisites: Communication major, 75 hours, and at least 2.75 GPA in major or recommendation of major advisor.

4813 (3 hours)**Analysis of Media**

Examines methods commonly used for analyzing the form and content of the mass media. Includes methods drawn from sociology, psychology, history, rhetoric, and literature. Prerequisite: COM 2123.

4843, 4853, 4863, 4873, 4883, 4893 (3 hours each)**Topics in Communication**

Provides an opportunity for students and faculty to engage in thorough study of a substantial topic in communication. May be repeated with different topics.

4943 (3 hours)**Analysis of Communication in Organizations**

Analyzes factors in communication policies, systems, attitudes, and practices that may affect organizational and individual performance,

enhance change strategies, or justify current policies and practices. Examines and selects alternative diagnostic approaches and tools for a 'pilot test' of a communication audit. Prerequisites: Senior standing, COM 2913, 3113.

4973 (3 hours)**Senior Project**

Applies accumulated knowledge and skills to an individual communication project. Prerequisite: Senior standing.

4981, 4982, 4983 (1-3 hours)**Independent Research**

For advanced undergraduates wishing to pursue their own program of research by specifying a problem, gathering and analyzing data, and producing a report under faculty guidance. Work may be as part of a research team. Prerequisites: Advanced standing and availability of an instructor to sponsor and evaluate the project.

4991, 4992, 4993 (1-3 hours)**Independent Readings**

Offered to advanced undergraduates who wish to undertake a guided program of readings concerning matters they have encountered in the regular curriculum. Prerequisites: Advanced standing and availability of an instructor to sponsor and evaluate the reading program as proposed by the student.

Communication Disorders

Chair

Paula Cadogan

Applied Professor

Sharon Baker

Associate Professor

Lori Davis

Applied Associate Professor

Paula Cadogan

Applied Instructor

Jessica Scott

Clinic Instructors

Kris Foyil

Ronda Marfechuk

Suzanne Stanton

The faculty of the Department of Communication Disorders offer curricula leading to the Bachelor of Arts in Deaf Education (B.A.D.E.) and the Bachelor of Science in Speech-language Pathology (B.S.S.P.). The mission of the Department of Communication Disorders is to provide challenging academic coursework, clinical experiences, and research opportunities for students pursuing professional careers in speech-language pathology and deaf education.

These programs combine a broad liberal arts undergraduate curriculum with strong academic coursework and practicum opportunities as a background for the management of communication disorders. The deaf education program focuses on preparing teachers of deaf and hard of hearing students. The program in speech-language pathology prepares students for graduate study since the master's degree is the entry level into the profession.

Certification

The programs in speech-language pathology and deaf education are recognized by the Oklahoma Commission for Educational Quality and Accountability and are fully accredited by the State of Oklahoma. The speech-language pathology program prepares students for certification by the American Speech-Language-Hearing Association (ASHA) upon completion of the master's degree. The degree program in deaf education leads to state teacher certification by the State of Oklahoma and national certification by the Council on Education of the Deaf (CED) and Teacher Education Accreditation Council (TEAC).

Admission/Retention Requirements

Students qualifying for admission to the University may enter either of these programs. Retention requires majors to earn a grade of at least C in all program courses taken. Courses may be repeated, if necessary, to meet this requirement. Students with a grade point average lower than 3.0 in speech-language pathology courses will enroll in clinical practicum if recommended by faculty. Failure to pass the practicum course will result in non-recommendation for graduate study in speech-language pathology study. Admission to the master's program in speech-language pathology at The University of Tulsa is not guaranteed to undergraduate majors.

The Tulsa Curriculum

The Tulsa Curriculum is designed to help students understand and appreciate several areas of knowledge in addition to a specialty. To meet specific certification requirements, speech-language pathology majors take PSY 3063 and/or EDUC 3713 and ANTH 2023 (Block II). Students receiving the Bachelor of Science in Speech-language Pathology (B.S.S.P.) must also take a First Seminar and complete a formal writing course (ENGL 1033), a mathematics course (MATH 1083 or 1093), a basic course in statistics (PSY 2023, SOC 2023, or STAT 2013), one course in a biological science, and one course in a physical science. Speech-language pathology students must also take the Senior Seminar class offered by the department.

Deaf Education

The deaf education program prepares teachers of students who are deaf or hard-of-hearing (HH), leading to N-12 certification from the Oklahoma Commission for Educational Quality and Accountability in the area of Deaf/HH. The program is accredited by the Council on Education of the Deaf (CED) as a comprehensive program. Therefore, students take courses in American Sign Language as well as courses focusing on auditory-oral approaches. In addition to the deaf education course sequence, students apply for admission to the Teacher Education Program and take methods courses provided by the School of Urban Education.

Deaf Education Learning Objectives

To prepare classroom teachers of deaf and hard of hearing students N-12, students will:

1. Demonstrate competency in communicating using American Sign Language (ASL);
2. Demonstrate understanding of the historical and cultural aspects of deaf education;
3. Demonstrate knowledge of visual language acquisition and the ways in which deaf and hard of hearing students develop literacy through visual strategies;
4. Demonstrate knowledge of hearing screening/assessment and interpretation of audiograms for Individual Education Plan (IEP) meetings;
5. Demonstrate knowledge of hearing aids and cochlear implants and the application of auditory-verbal techniques for developing aural/oral language in deaf and hard of hearing students;
6. Demonstrate knowledge and skills related to assessment and remediation of language delays and educational achievement in children who are deaf or hard of hearing;
7. Demonstrate knowledge of curriculum planning, unit and lesson plan development, and classroom management;
8. Demonstrate the ability to plan and teach lessons using ASL and English bilingual strategies;
9. Demonstrate the ability to differentiate instruction across the diverse population of children who are deaf or hard of hearing;
10. Demonstrate knowledge of federal laws affecting the education of children with disabilities, preparation of IEPs and transition plans;
11. Demonstrate the ability to serve in a consultative capacity in schools serving deaf and hard of hearing children in regular education environments; and

- 12. Demonstrate the ability to collaborate with parents and other professionals involved in the education of children who are deaf or hard of hearing.

Specialization Courses

CDDE 1003, American Sign Language I.....3

CDDE 1013, American Sign Language II3

CDDE 2003, American Sign Language III3

CDDE 2013, American Sign Language IV3

CDDE 2033, Introduction to Deaf Education.....3

CDSP 2023, Normal Language Development.....3

CDDE 2383, Deaf History and Culture3

CDDE 3181, Practicum: Deaf Education1

CDDE 3281, Practicum: Deaf Education1

CDDE 3381, Practicum: Deaf Education1

CDAU 3203, Introduction to Clinical Audiology3

CDAU 4073, Auditory Rehabilitation.....3

CDDE 4313, Language Development in Students who are Deaf/HH.....3

CDDE 4333, Literacy Development in Students who are Deaf/HH3

CDDE 4343, Methods of Teaching Students who are Deaf/HH.....3

CDAU 4353, Auditory Options for Children who are Deaf/HH.....3

Area of Concentration, additional courses in elementary education or secondary content area 12-13

Total Hours..... 54-55

Professional Education (Required for Certification)

CDDE 4516, Elementary Deaf Education Student Teaching.....6

CDDE 4536, Secondary Deaf Education Student Teaching.....6

CDDE 4971, Study at Gallaudet.....1

EDUC 1101, Introduction to Education.....1

EDUC 2103, Foundations of Education.....3

EDUC 3171, Educational Technology for Instruction1

EDUC 3713, Child and Adolescent Development and Learning.....3

EDUC 3733, Measurement and Evaluation.....3

EDUC 4013, Education of Exceptional Children and Youth.....3

EDUC 4971, Seminar in Student Teaching.....1

Total Hours 28

Total hours required for a degree in deaf education range from 124 to 129 depending upon concentration.

Minor in Deaf Education

Students take a minimum of 12 credit hours and at least two courses must be taken at the upper division level. The following list of courses may count toward a minor in deaf education:

Lower Division

CDDE 1003, American Sign Language I	3
CDDE 1013, American Sign Language II.....	3
CDDE 2003, American Sign Language III	3
CDDE 2013, American Sign Language IV	3
CDDE 2033 Introduction to Deaf Education	3
CDDE 2383, Deaf History and Culture	3

Upper Division

CDDE 4313, Language Development in Students who are Deaf/HH	3
CDDE 4333, Literacy Development in Students who are Deaf/HH	3
CDAU 4353, Auditory Options for Children who are Deaf/HH	3

Speech-Language Pathology

The bachelor’s degree in speech-language pathology is a pre-professional program that provides required course work and clinical experiences for graduate school admission to complete the student’s professional education. Students majoring in speech-language pathology are encouraged to declare their major as sophomores. Major courses are sequenced to prepare students for supervised clinical practicum. Majors also complete a 12-hour minor in consultation with their advisor. Admission to the master’s program in speech-language pathology at The University of Tulsa is not guaranteed to undergraduate majors.

Speech-Language Pathology Learning Objectives

1. Students demonstrate comprehension of the process of typical language and literacy development in children.
2. Students demonstrate knowledge and skills related to the assessment and intervention of articulation/phonological skills in children and adults.
3. Students demonstrate comprehension of the muscles and functions of respiration and speech.
4. Students demonstrate knowledge related to the acoustic properties of speech/hearing, processes of speech production/perception and skills to utilize appropriate methods and instrumentation that measure acoustic properties of speech.
5. Students demonstrate comprehension of atypical language development and application of basic language sample analysis skills.
6. Students demonstrate knowledge of hearing screening/assessment and interpretation of audiograms.
7. Students demonstrate knowledge and methods to facilitate communication in persons who are hard-of-hearing.
8. Students demonstrate knowledge of hearing aids and cochlear implants as options for persons who are deaf/hard of hearing.

- 9. Students demonstrate the ability to administer and interpret standardized tests in order to diagnose a language/learning disorder.
- 10. Students demonstrate knowledge of therapy goals and intervention strategies in speech language pathology.
- 11. Students demonstrate knowledge of etiologies and characteristics of various adult communication disorders.
- 12. Students demonstrate comprehension/application of the ASHA code of ethics.

Area of Concentration

CDAU 3203, Introduction to Clinical Audiology	3
CDAU 4073, Auditory Rehabilitation.....	3
CDAU 4353 Auditory Options for Children who are Deaf/HH.....	3
CDSP 1013, Introduction to Communication Disorders	3
CDSP 2023, Normal Language Development.....	3
CDSP 2053, Anatomy and Physiology of Speech and Hearing	3
CDSP 3033, Introduction to Language Disorders	3
CDSP 3113, Speech Sound Disorders	3
CDSP 3183, Clinical Methods	3
CDSP 3203, Phonetics.....	3
CDSP 4023, Professional and Multicultural Issues in Communication Disorders (Senior Seminar).....	3
CDSP 4063, Speech and Hearing Science	3
CDSP 4143, Acquired Communication Disorders	3
CDSP 4163, Evaluation of Speech-Language Disorders	3
Total Hours	42

Minor in Speech-Language Pathology

Students take a minimum of 12 credit hours with two lower and two upper division courses from the following list for a minor in speech-language pathology:

- CDAU 3203, Introduction to Clinical Audiology
- CDSP 1013, Introduction to Communication Disorders
- CDSP 2023, Normal Language Development
- CDSP 2053, Anatomy and Physiology of Speech and Hearing
- CDSP 3033, Introduction to Language Disorders
- CDSP 3113, Speech Sound Disorders
- CDSP 3203, Phonetics
- CDSP 4063, Speech and Hearing Science
- CDSP 4143, Acquired Communication Disorders

Audiology (CDAU)

3203 (3 hours)

Introduction to Clinical Audiology

A survey of clinical audiology. This course includes an overview of the profession of audiology, the physics of sound, the anatomy and physiology of the auditory system, basic audiologic tests, audiogram interpretation, and disorders of the auditory system.

4073 (3 hours)

Auditory Rehabilitation

Overview of audiologic (re)habilitation for children, adults, and elderly adults. Includes primary and secondary consequences of hearing loss, hearing aids, cochlear implants and assistive listening devices, auditory and visual stimuli in communication, psychosocial

aspects of hearing loss, and basic family-centered and client-centered counseling.

Prerequisite: CDAU 3203.

4353 (3 hours)

Auditory Options for Children Who Are Deaf and Hard of Hearing

Overview of auditory options for communication for children who are deaf and hard of hearing. Topics include auditory skill development, current technology and assistive devices, the early intervention team, parent counseling, a family-centered approach to management, classroom acoustics, classroom accommodations, and techniques to maximize functional hearing. Educational needs will be addressed. Prerequisite: CDAU 4073.

Deaf Education (CDDE)

1003 (3 hours)

American Sign Language I

Introduction to basic knowledge about American Sign Language and deaf culture. Emphasizes acquisition of both comprehension and production skills so that the student may function in situations at a level appropriate to the novice signer. Includes visual readiness and fingerspelling activities with language practice within meaningful contexts.

1013 (3 hours)

American Sign Language II

Continuation of CDDE 1003. Emphasizes expansion and refinement of fundamental comprehension and production skills in American Sign Language. In addition, deaf cultural studies are emphasized. Interactive language use is stressed during classroom activities and discussion of appropriate topics. Prerequisite: CDDE 1003.

2003 (3 hours)

American Sign Language III

Continuation of CDDE 1003-1013. Focuses on increasing the student's ability to use American Sign Language in a wider range of situations and with greater accuracy. Conversational language use is emphasized within natural contexts. Students acquire greater mastery of complex grammatical aspects of American Sign Language including

non-manual behaviors and classifiers.

Prerequisite: CDDE 1013.

2013 (3 hours)

American Sign Language IV

Focuses on more advanced language skill development including grammatical features, non-manual behaviors, register continuum, and discourse skill in American Sign Language. Prerequisite: CDDE 2003.

2033 (3 hours)

Introduction to Deaf Education

An overview of the field of deaf education, the course includes the study of the social, emotional, intellectual, and academic development of deaf/hard of hearing students including those with additional disabilities, the process of diagnosis/discovery of hearing loss etiology and prevalence data, laws affecting educational programs, roles of teachers of deaf and hard of hearing students, and the various communication systems used by deaf individuals.

2383 (3 hours)

Deaf History and Culture

Introduction to deaf culture and the deaf experience from ancient times to present. Topics include the history of deaf education, socio-cultural and socio-political issues, and cultural similarities/differences that exist within the deaf and hearing communities.

3181, 3281, 3381 (1 hour each)**Practicum: Deaf Education**

Observations and supervised participation in classrooms with deaf and hard of hearing students and other approved interactions in the deaf community for 50 hours per semester and a total of 150 clock hours for the three courses CDDE 3181, 3281, and 3381. Corequisites: CDDE 4313, 4333, 4343.

4313 (3 hours)**Language Development in Students Who Are Deaf/HH**

In-depth study of language creation and language acquisition in children who are deaf or hard of hearing. Topics include theories of language development, assessment strategies, and classroom techniques for the remediation of language, and neurological delays that result from deprived environments. Prerequisites: CDDE 1013, 2033, and 2383.

4333 (3 hours)**Literacy Development in Students Who Are Deaf/HH**

Focuses on strategies and techniques for teaching reading and writing skills to deaf and hard of hearing students. Various literacy approaches are investigated and practiced through classroom projects and demonstrations. Methods of assessing deaf and hard of hearing students' reading and writing skills are incorporated into required projects. Prerequisite: CDDE 4313.

4343 (3 hours)**Methods of Teaching Students Who Are Deaf/HH**

Focuses on the art of teaching content subjects to students who are deaf or hard of hearing. Students learn the elements of curriculum planning (e.g., how to develop unit plans, lesson plans, and IEPs), appropriate uses of instructional technology, and classroom

management for students who are deaf or hard of hearing. Prerequisite: CDDE 4333.

4516 (6 hours)**Elementary Deaf Education Student Teaching**

Supervised teaching experience in preschool or elementary classes for the deaf and hard of hearing students at a residential school for the deaf or local public school program. Duration either seven or eight weeks. Students must have concurrent enrollment in CDDE 4536 and EDUC 4971. Prerequisites: A completed student teaching application and final approval of the Teacher Education Program.

4536 (6 hours)**Secondary Deaf Education Student Teaching**

Supervised teaching experience in classes for deaf and hard of hearing students at a residential school for the deaf or local public school program. Duration either seven or eight weeks. Students must have concurrent enrollment in CDDE 4516 and EDUC 4971. Prerequisites: A completed student teaching application and final approval of the Teacher Education Program.

4971 (1 hour)**Study at Gallaudet**

A seminar conducted on the campus of Gallaudet University in Washington, DC. Students select a topic of interest related to the education of children who are deaf or hard of hearing. While at Gallaudet, students explore and research their topic to gain a further understanding of the implications for the education of students who are deaf or hard of hearing.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Prerequisite: Permission of instructor.

Speech-Language Pathology (CDSP)

1013 (3 hours)

Introduction to Communication Disorders

A survey of the field of speech-language pathology and hearing disorders.

2013 (3 hours)

Essentials of Spoken English for the International Student

For university students whose primary language is not English. Attention to cultural similarities and differences between the student's native country and the United States. Listening and speaking skills are highlighted, emphasizing classroom participation and presentations through structured opportunities in dyadic, small group, and public speaking situations.

2023 (3 hours)

Normal Language Development

Explores the social, cognitive, linguistic and cultural bases of language development throughout the human lifespan. The development of reading and writing skills are presented along with basic language development assessment techniques. Language development in children who are bilingual is also presented.

2053 (3 hours)

Anatomy and Physiology of Speech and Hearing

A detailed study of the anatomy and physiology of the speech and hearing mechanism, including the related skeletal, muscular, and nervous systems.

3033 (3 hours)

Introduction to Language Disorders

Methods of language assessment and intervention are presented. Designed to introduce the identification and the treatment of language disorders in children. Categories of language disorders will be discussed, including language learning disability, hard-of-hearing, intellectual disability, and autism spectrum disorder. Linguistic, semantic and pragmatic assessments of language production/intention are presented and therapy procedures are introduced. Prerequisite: CDSP 2023.

3113 (3 hours)

Speech Sound Disorders

Provides students with information about normal and atypical speech sound development. Speech sound disorders include problems with articulation (making sounds) and phonological processes (sound patterns.) Student will gain information regarding the assessment and treatment of articulation and phonological disorders. Specifically, student will participate in readings and activities as well as assessment and intervention processes for people who have normal and disordered articulation and phonological development.

3183 (3 hours)

Clinical Methods

Class discussion, observation and assignments prepare the student for direct clinical practice with persons with communication disorders. Prerequisites: CDAU 3203, CDSP 3033, CDSP 3113.

3203 (3 hours)

Phonetics

English speech sound production and use of the corresponding International Phonetic Alphabet symbols and diacritical marks for transcription. Prerequisite: CDSP 2053.

4023 (3 hours)

Professional and Multicultural Issues in Communication Disorders (Senior Seminar)

Seminar in professional and multicultural issues associated with the practice of speech-language pathology and/or audiology.

4033 (3 hours)

Infants and Toddlers at Risk

Presents the development of the infant and toddler along with assessment and intervention strategies utilized by speech-language pathologists working in early intervention settings. Family issues, counseling and writing the IFSP are also considered. Speech-language pathology majors take this on a graduate level in graduate school as CDSP 6063. Prerequisite: CDSP 2023.

4063 (3 hours)**Speech and Hearing Science**

An introduction to the production and perception of speech. The physiology and acoustics of speech and hearing processes are emphasized. Prerequisite: CDSP 3203.

4143 (3 hours)**Acquired Communication Disorders**

Information on the etiologies and characteristics of various adult communication disorders including aphasia, dysphagia, dysarthria, apraxia, and cognitive-linguistic disorders. Students will consider various diagnostic tools and treatment methods

including augmentative communication and patient/family based treatment approaches.

Prerequisites: CDSP 3113, 2053.

4163 (3 hours)**Evaluation of Speech-Language Disorders**

Administration and interpretation of standardized tests related to speech and language disorders. Diagnosis of students who receive a psychoeducational evaluation is also presented. Prerequisites: CDSP 3033; PSY 2023 or SOC 2023.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Prerequisite: Permission of instructor.

Economics

Chair	Associate Professors
Chad Settle	Scott Carter
	Bobbie Horn
Professors	Assistant Professors
William Dugger	Matthew Hendricks
Chad Settle	Yusi Ouyang
Steve Steib	

The Department of Economics offers two curriculum options: Bachelor of Arts (B.A.) or Bachelor of Science (B.S.). Students should consult an economics faculty advisor to select the appropriate program.

Learning Objectives

Our faculty is committed to student learning which helps students:

- Develop technical competence.
- Develop analytical abilities across a wide range of economic schools of thought.
- Develop a passion for learning with a focus on economics.

B.A. Program

Major Subject

ECON 2013, Principles of Economics I: Macroeconomics	3
ECON 2023, Principles of Economics II: Microeconomics	3
ECON 3023, Macroeconomic Theory	3
ECON 3033, Microeconomic Theory	3
ECON 4053, History of Economic Theory	3
MATH 1103, Basic Calculus*.....	3
STAT 2013, Introduction to Statistics <i>or</i>	
SOC 2023, Statistics for the Social Sciences	3
Economics electives (at least 9 hours at the 3000-4000 level)	12
Total Hours.....	33

Minor Field for Economics Majors

The minor field consists of 12 hours with at least 6 hours at 3000 or 4000 level.

B.S. Program

Major Subject

ECON 2013, Principles of Economics I: Macroeconomics	3
ECON 2023, Principles of Economics II: Microeconomics	3
ECON 3023, Macroeconomic Theory	3
ECON 3033, Microeconomic Theory	3
ECON 4053, History of Economic Theory	3
STAT 4813, Statistical Methods for Scientists and Engineers <i>or</i>	
QM 2013, Statistics I* <u>and</u> QM 2023, Statistics II.....	3-6
Economics electives (3000-4000 level)	12
Total Hours.....	30-33

Minor Field for Economics Majors

The minor field consists of 12 hours with at least 6 hours at 3000 or 4000 level.

Students pursuing a Bachelor of Science in economics must take MATH 1014 and 2024 as part of the Tulsa curriculum.

Economics (ECON)

1013 (3 hours) Block 2

Economics of Social Issues

Introduction to the application of economic thinking to current social issues. Intended for students who have never had a course in economics.

1023 (3 hours) Block 2

Issues in Environmental Policy

A multi-disciplinary introduction to the analysis of major environmental issues. The approach draws on an array of social and natural sciences.

2013 (3 hours) Block 2

Principles of Economics I: Macroeconomics

Introduction to macroeconomic theory and policy with attention to employment, inflation, the balance of payments, and economic growth. Additional topics include an introduction to the history of economic thought and issues in economic development.

2023 (3 hours) Block 2

Principles of Economics II: Microeconomics

Introduction to microeconomics: the theory of market systems with attention to the theory of consumer behavior, the behavior of firms, and factor markets. Additional topics include the economics of ecology and the distribution of income.

2073 (3 hours) Block 2

Introduction to the Chinese Economy

An introduction to both microeconomic and macroeconomic topics in the Chinese economy. Includes both a historical overview and a modern treatment of China's economic development.

3013 (3 hours)

Monetary Economics

Monetary systems and their operation, the role of central banks, monetary theory, and monetary policy. Prerequisite: ECON 1013.

3023 (3 hours)

Macroeconomic Theory

The determination of income, employment, and the price level in an open economy and the roles of monetary and fiscal policies.

Prerequisite: ECON 1013.

3033 (3 hours)

Microeconomic Theory

Price determination, consumer behavior, theory of the firm, market structures, and resource allocation. Prerequisite: ECON 2023 and either MATH 1163 or MATH 1103 or MATH 1014.

3063 (3 hours)

Labor Economics

Analytical, empirical, and policy approach to micro- and macroeconomic aspects of labor market behavior. Prerequisite: ECON 1013 or 2023.

3073 (3 hours)

Applied Econometric Methods

Applied techniques of econometric modeling, estimation, and hypothesis testing. Prerequisite: completion of an introductory statistics course.

3083 (3 hours)

International Economics

The theory of international trade and payments with attention to trade policy and the interaction of trade and development. Prerequisite: ECON 1013 or 2023.

3093 (3 hours)

Junior Seminar

A critical study of selected topics in economics. Prerequisites: Six hours of economics.

3113 (3 hours)

Economic Development

Explores economic problems encountered by developing countries and alternative theories of development. Emphasis on industrialization, urbanization, international trade and finance, the public sector, multinational institutions,

and technology. Sustainable development, environmental quality, and poverty reduction are crucial. Prerequisites: ECON 2013, 2023.

3123 (3 hours)

Resources and the Environment

The historical and theoretical study of the resource base and development. Prerequisites: ECON 2013 and 2023.

3143 (3 hours)

Comparative Theories of Economic Growth

Explores phenomenon of economic growth from perspective of comparative theoretical approaches. Classical, Neoclassical, and (Post) Keynesian models of economic growth are introduced and developed. Empirical efficacy of each theory is explored. Prerequisites: ECON 2023, 2013.

3153 (3 hours)

Health Economics

An application of basic economic principles to the choices and actions of consumers, physicians, hospitals, insurance companies, state government and the federal government in America's health care sector. This course also reviews and contrasts America's system with the universal coverage systems of other developed countries. Prerequisites: ECON 2023.

3163 (3 hours)

Game Theory and Experimental Economics

An introduction to game theory focusing particular attention on examples taken from economics. Explorations include both theoretical and applied research within game theory.

3243 (3 hours)

Comparative Heterodox Theories of Value, Price and Distribution

Introduces students to heterodox non-mainstream theories of value and distribution focusing on theories from both the left (Classical and Marxian political economy) as well as the right (Austrian theory and methodology). Prerequisites: ECON 2013 and 2023.

3253 (3 hours)

The Chinese Economy

Seminar course exploring recent research on the Chinese economy, which an emphasis on empirical studies. Prerequisites: ECON 2013 and 2023.

3973 (3 hours)

Seminar

Exploration of a topic or substantive issue in a seminar format.

3991, 3992, 3993 (1-3 hours)

Independent Study

Prerequisites: Junior standing and permission of instructor.

4053 (3 hours)

History of Economic Theory

Survey and analysis of the evaluation of economic theory from the 1700s to the present. Prerequisites: Six hours of economics.

4163 (3 hours)

Policy Analysis

Provides analytic concepts and tools for understanding public policy and analyzing specific policies. Comprehensively treats rationales for public policy-describing limitations to effective public policy and generic policy solutions, and treating the issue of the appropriate match between policy tools and particular market failures. Prerequisites: ECON 2023 or permission of instructor.

4973 (3 hours)

Senior Project

The Henry Kendall College of Arts and Sciences requires a Senior Project of all students. Economics majors will engage in directed independent research projects with selected faculty.

4991, 4992, 4993 (1-3 hours)

Independent Study

Prerequisites: Senior standing and permission of instructor.

Educational Studies

Chair

Diane E. Beals

Affiliated Faculty

Cheryl Matherly

Associate Professors

Diane E. Beals

Josh Corngold

Avi I. Mintz

Tao Wang

The Department of Educational Studies seeks to advance theory, research, and scholarship in the field of education. The faculty accomplishes this through individual and collaborative research and writing projects, and through aiding students to think critically about education. We conceive of education broadly; faculty and students focus on questions including (but not limited to) the aims and purposes of education and the nature of learners and learning institutions and contexts. The approach of the department is multi-disciplinary and involves scholarship in fields such as philosophy, psychology, anthropology, sociology, history, and political science. In addition, we are linked with the larger educational community, locally and internationally, in service of practice and policy.

Minor in Educational Studies

Students wishing to pursue an educational studies minor must take 12 hours of coursework. Six hours must be at the 3000 level or higher and approved by the chair of the Department of Educational Studies.

Additional education courses are listed in the School of Urban Education beginning on page 128 of this *Bulletin*.

Education (EDUC)

2223 (3 hours) Block 2

Philosophy of Education

An introduction to key issues and contemporary debates in the philosophy of education. Questions to be examined include: What are the appropriate aims of schooling in a free and diverse society? What should be taught, and how? How should authority over education be structured? Should exemptions be granted, and if so, on what basis?

2253 (3 hours) Block 2

History of Western Educational Philosophy

What is the nature of education? What is the purpose of education? What is the relation of school and society, politics and education? Answers to these questions will be addressed by considering works of, for example, Plato, Aristotle, Rousseau and John Dewey.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5003 (3 hours)

Philosophy of Education

An introduction to key issues and contemporary debates in the philosophy of education. Questions to be examined include: What are the appropriate aims of schooling in a free and diverse society? What should be taught, and how? How should authority over education be structured? Should exemptions be granted, and if so, on what basis?

School of Urban Education

Director

Kara Gae Neal

Applied Professor

Kara Gae Neal

Associate Professor

David S. Brown

Assistant Professor

Peggy Lisenbee

Applied Assistant Professor

Jolly A. Meadows

“Urban Education” is representative of the *best* educational research and applied practices available in the field today. Issues of race, gender, socio-economic class, equity, linguistic pluralism, and social justice can be found in every classroom whether urban, suburban, rural, public or private. The *degree* to which these factors can be found in a school is the only difference.

The mission of the School of Urban Education is to develop transformative professional educators who are:

- Subject matter experts;
- Practicing scholars of educational research;
- Ethical, dedicated representatives of the profession; and
- Equipped to advance every child’s learning amid the social, economic and cultural diversity found in the classroom and surrounding community.

Cultural philosopher and educator Henry Giroux (1943-) defines a “transformative educator” as one who “has a social vision and commitment to make public schools democratic public spheres, where all children, regardless of race, class, gender and age can learn what it means to be able to participate fully in a society that affirms and sustains the principles of equality, freedom, and social justice and who has the courage to take risks, to look into the future and to imagine a world that could be, as opposed to simply what is.”

To achieve the goal of developing transformative professional educators, there will be early and extensive clinical opportunities for the student intern to be active in a partnership with a specific school. Research indicates that, just as with the medical profession, the more hours spent in the clinical experience to apply content knowledge and practices, the better prepared the intern will be for transition to career responsibilities.

Learning to integrate technology into classrooms is a fundamental component of the teacher preparation program. In addition to standard uses of technology tools, there will be the opportunity to understand and assist the progress of students in a classroom through software analysis, applications of various social media and interpretation and uses of data to advance learning.

All education courses taken by student teaching interns will stress the relevance of the course content to classroom applications as demonstrated by on-site projects with partner schools whenever possible.

Urban education students benefit from the School's collaboration and partnerships with other components of TU's academic and service community:

- The University School for the Gifted,
- STEM (Science, Technology, Engineering and Mathematics) Summer Programs for Students and Teachers,
- Continuing Education/Lifelong Learning,
- True Blue Neighbors,
- Kendall-Whittier Elementary Community School,
- Communication Disorders (Deaf Education and Language Pathology),
- TU's Center for Community Development and Research (CCRD),
- Gilcrease Museum,
- Henry Zarrow Center for Arts and Education,
- Global Alliance Center, and
- English Programs for International Studies.

The programs for the preparation of teachers in deaf education, elementary education, exercise and sports science, instrumental and vocal music education, art, foreign language, science, English, social studies, mathematics, and theatre (speech/drama/debate) are recognized by the Oklahoma Commission for Educational Quality and Accountability (OCEQA) and nationally accredited by the Teacher Education Accreditation Council (TEAC).

Teacher Preparation Options

Students who seek to become teachers have the following options for majors at The University of Tulsa:

- biology, chemistry, geosciences, or physics (with a second major in education);
- mathematics (with a second major in education);
- English (with a second major in education);
- French, German, Russian, or Spanish (with a second major in education);
- anthropology, sociology, history or political science (with a second major in education);
- art or theatre (with a second major in education);
- music education (instrumental or vocal);
- exercise and sports science (with certification option);
- elementary education;
- deaf education.

Students must confer with an education advisor to determine what type of teaching certificate is appropriate for their chosen major. For more information on requirements for each teacher preparation option, visit the School of Urban Education website, www.utulsa.edu/education, or contact the School of Urban Education at 918-631-2236.

Program Phases

There are six phases to the Teacher Education Program:

1. Declaration of a major in education;
2. Consultation with education advisor to plan the student's course of study;
3. Application and admission to the Teacher Education Program;
4. Completion of required coursework;
5. Application and admission to student teaching; and
6. Completion of student teaching.

In the first phase, the student formally declares education as a major through the Office of Advising in the Henry Kendall College of Arts and Sciences, 918-631-2244. The student also takes EDUC 1101, Introduction to Education.

In the second phase, the student meets with an appointed education advisor to go over preparation for certification and to plan the student's course of study.

In the third phase, the student takes EDUC 2103, Foundations of Education, and applies to the Teacher Education Program. Students normally apply for admission to the Teacher Education Program no later than the second semester of their sophomore year. Sophomore, junior, or senior transfer students should apply during their first semester on campus. Requirements for admission are listed below:

Admission to the Teacher Education Program

- Completion of 30 credit hours
- Overall GPA of 2.75 (including 3.0 in Professional Education courses and 2.75 in major courses)
- C or better in EDUC 1101
- C or better in EDUC 2103
- Passing OGET score
- Score of 80% or better on Legal Aspects of Education test
- C or better in ENGL 1033
- Satisfactory completion of interview with education advisor
- In compliance with pertinent local, state, and federal laws
- In compliance with pertinent codes of conduct/ethics
- Satisfactory review of portfolio
- Recommendation of education advisor

Students should consult with an education advisor to complete the application (provided on the School of Urban Education website, www.utulsa.edu/education).

In the fourth phase, following admission to the Teacher Education Program, the student completes all required coursework in the chosen teacher preparation option. Balance sheets with course requirements for each teacher preparation option are available from the administrative assistant in the School of Urban Education, 918-631-2236, or on the School of Urban Education website www.utulsa.edu/education.

In the fifth phase, the student submits an application for student teaching. For fall semester placement in student teaching, students should make formal application by March 1 of their junior year. For spring semester placement, application should be made by October 1 of the senior year. Specific admission criteria are:

Admission to Student Teaching Program

- Previous admission to the Teacher Education Program
- C or better in second writing course (besides ENGL 1033)
- Completion of all courses in major
- Completion of all Tulsa Curriculum courses
- Completion of all Professional Education courses except student teaching and EDUC 3171
- Overall GPA of 2.5 (2.75 in area of concentration and professional education courses)
- Senior or graduate status achieved
- In compliance with pertinent local, state, and federal laws
- In compliance with pertinent codes of conduct/ethics
- Satisfactory completion of all field experiences
- Satisfactory review of portfolio
- Recommendation of education advisor
- Recommendation of advisor in area of specialization (major)
- Recommendation of director of School of Urban Education

Students are strongly encouraged to take the Oklahoma Subject Area Test (OSAT) prior to student teaching.

Students must consult their advisor in completing the application (provided on the School of Urban Education website, www.utulsa.edu/education).

In the sixth phase the student completes the student teaching assignment. Students must reserve one semester for student teaching and the student teaching seminar.

Professional Education Course Requirements for All Education Majors

EDUC 1101, Introduction to Education

EDUC 2103, Foundations of Education

EDUC 3171, Educational Technology for Instruction

EDUC 3713, Child and Adolescent Development and Learning

EDUC 3733, Measurement and Evaluation

EDUC 4013, Education of the Exceptional Child

12 hours of appropriate grade level student teaching

EDUC 4971, Seminar in Student Teaching

Second Language Proficiency

Students completing the Teacher Education Program must demonstrate proficiency in a second language by completing a language course offered by The University of Tulsa (American Sign Language, Chinese, French, German, Greek, Hebrew, Latin, Portuguese, Russian or Spanish). The Henry Kendall College of Arts and Sciences requires four semesters of a single language, while Collins College of Business and the College of Engineering and Natural Sciences require two semesters.

Professional Examinations

Prospective teachers in Oklahoma must pass the Oklahoma General Education Test (OGET), the appropriate Oklahoma Subject Area Test (OSAT), and the Oklahoma Professional Teaching Examination (OPTE) to be eligible for certification. Complete

information and registration bulletins are available from the Certification Examinations for Oklahoma Educators website, www.cee.nesinc.com, as well as the administrative assistant in the School of Urban Education, 918-631-2236.

Additional Course Requirements for Elementary Education Majors

Regulations of the Oklahoma Commission for Educational Quality and Accountability require a diversified program in the liberal arts and sciences for elementary candidates. State law requires that candidates for certification in elementary education must complete 48 semester hours with 12 hours in four areas: 1) language arts, 2) social studies, 3) mathematics; and 4) science. The courses may not be methods courses. According to the Commission's regulations, courses satisfying this requirement may be included in the general education program, the major, a minor, or any combination.

For the specific components and course requirements of the elementary education major, visit the School of Urban Education website, www.utulsa.edu/education, or contact the School of Urban Education at 918-631-2236.

Minor in Education

A minor in education is available. Twelve (12) credit hours must be completed in education with 6 hours at the 3000 level or higher.

Education (EDUC)

Professional Education

1101 (1 hour)

Introduction to Education

Orientation to careers in teaching and the Teacher Education Program. Includes 10 clock hours of field experience. Required for admission to Teacher Education Program.

2103 (3 hours)

Foundations of Education

The historical, philosophical, political, and sociological foundations of education presented in the context of contemporary issues. Required for admission to Teacher Education Program.

2233 (3 hours) Block 2

Foundations of Multicultural Education

Examines concepts, theories and strategies that constitute multicultural education. Focuses on racial and ethnic groups, social class, and gender. Explores dimensions of multicultural education including content integration, knowledge construction process, prejudice reduction, equity pedagogy, and empowering school culture and social structure. Includes overview of multicultural and multilingual curricula, and culturally and linguistically

responsive instructional and assessment techniques.

3171 (1 hour)

Educational Technology for Instruction

For future educators who are interested in learning to use many forms of technology in their classrooms and the pedagogy related to using this technology.

3713 (3 hours)

Child and Adolescent Development and Learning

Examines views of childhood, development, and education, using historical, psychological, sociological, and anthropological perspectives. Focuses not only on Western views of childhood, but also other cultures' views of childhood and adolescent development, and variations in life-span experiences both within American culture and across other cultures.

3733 (3 hours)

Measurement and Evaluation

Theory and practice of assessment and evaluation including standardized tests and teacher-made tests. Topics include alternative

assessment techniques and applications of educational technology.

4013 (3 hours)**Education of the Exceptional Child**

Psychological, sociological, physical, and educational aspects of exceptional children considered from the perspective of appropriate classroom teaching strategies. Includes meeting the needs of highly able learners.

4214 (4 hours)**Teaching Methods for Middle and Secondary Schools**

General and specialized methods for middle school/junior high school and senior high school teachers. Includes planning instruction, instructional strategies, classroom management, integrating educational technology, and teaching reading and writing in subject areas. Includes 40 clock hours of field experience at two different levels. Prerequisites: EDUC 3713, 3733, and admission to Teacher Education.

4221 (1 hour)**Field Experience**

Forty clock hours of observation and teaching at two different grade levels. Pass-fail only. Concurrent enrollment: Special teaching

methods course. Prerequisite: Admission to Teacher Education.

4616 (6 hours)**Student Teaching in Elementary School**

Prerequisite: Admission to Student Teaching. Corequisite: EDUC 4971.

4626 (6 hours)**Student Teaching in Middle School**

Prerequisite: Admission to Student Teaching. Corequisite: EDUC 4971.

4636 (6 hours)**Student Teaching in Senior High School**

Prerequisite: Admission to Student Teaching. Corequisite: EDUC 4971.

4971 (1 hour)**Seminar in Student Teaching**

Issues and concerns related to student teaching and the teaching profession. Topics include parent and community involvement, safety and security, legal aspects, professional ethics, and classroom management. Must be taken concurrently with Student Teaching.

4993, 4994 (3-4 hours)**Independent Study**

Prerequisite: Permission of instructor.

Elementary Education**3103 (3 hours)****Children's Literature**

A survey of children's literature. Award-winning literature in various genres is critically examined. Special emphasis is given to literature appropriate for culturally diverse classrooms.

3303 (3 hours)**Writing and Language Development for Elementary Children**

The natural process of how children learn to communicate through speaking, listening, writing, and reading. Includes mechanics and nature of writing, the process approach, modes of writing, and role of computers and technology in writing in the elementary classroom. Field experiences in culturally diverse settings. Corequisite: EDUC 3323. Prerequisite: Admission to Teacher Education.

3313 (3 hours)**Reading for Elementary Children**

Curriculum objectives, methods, and materials for teaching and development of reading skills in relation to children's language and thinking abilities. Emphasis on theories, skill development, and application of the reading process. Includes field experiences in culturally diverse settings. Corequisite: EDUC 4143. Prerequisite: Admission to Teacher Education.

3323 (3 hours)**Literacy Assessment and Intervention**

Emphasizes remedial reading, including diagnosis and assessment of reading problems and selection of teaching strategies for remedial reading in the classroom. Practicum includes application of course content with at-risk readers. Includes field experiences in culturally diverse settings. Corequisite: EDUC 3303. Prerequisite: Admission to Teacher Education.

4123 (3 hours)**Science for Elementary Children**

Understanding the nature of science, developing positive attitudes toward science, and developing and teaching science concepts using inquiry-based, concrete activities in the biological and physical sciences.

Interdisciplinary curriculum planning and educational technology applications are emphasized. Includes field experiences in culturally diverse settings. Corequisite: EDUC 4133. Prerequisite: Admission to Teacher Education.

4133 (3 hours)**Mathematics for Elementary Children**

Emphasis on quantitative thinking, problem solving, applied mathematics, and positive attitudes toward mathematics for learners using

inquiry based concrete activities.

Interdisciplinary curriculum planning and educational technology applications. Includes field experiences in culturally diverse settings. Corequisite: EDUC 4123. Prerequisite: Admission to Teacher Education.

4143 (3 hours)**Social Studies for Elementary Children**

Planning and preparation of materials, activities, and strategies for teaching social studies concepts. Application of course content in field experiences with unit and lesson planning. Interdisciplinary curriculum planning, multicultural education, and educational technology applications. Includes field experiences in culturally diverse settings. Corequisite: EDUC 3313. Prerequisite: Admission to Teacher Education.

English Language and Literature

Chair

Randall Fuller

Professors

Lars Engle

Randall Fuller

Joseph A. Kestner

Holly A. Laird

Sean Latham

Associate Professors

Jennifer Airey

Robert A. Jackson

Grant Jenkins

Laura Stevens

Assistant Professors

Jeffrey Drouin

Rob McAlear

Claudia B. Nogueira

Distinguished Professor

Yevgeny Yevtushenko

The Bachelor of Arts (B.A.) degree is offered by the faculty of the Department of English. The aim of the undergraduate major in English is to educate students in literature and language and in the practice of writing, and to enhance their understanding of the tradition of liberal arts. The major develops the ability to understand and appreciate literature in its historical and cultural contexts, to read closely and analytically in a broad range of texts, and to write about language and literature with clarity and precision.

The English core emphasizes basic experiences of the literary tradition in England and America and introduces students to critical methods and theoretical approaches to literary study. On this foundation, English electives focus on literary periods, major literary figures, the several genres of literature, and the nature and history of the English language. Work in related areas such as foreign languages, philosophy, history, film studies, and creative writing is encouraged. The overall aim of the program is flexible, yet directive and cumulative, and provides broad opportunities for professional as well as personal post-graduate application.

Learning Objectives:

- To facilitate student learning by providing knowledge, resources, and challenges for their growth;
- To expose students to unfamiliar literary works (including film, digital media, and other narrative and poetic forms), as well as to canonical or traditional texts;
- To improve student reading, writing, and thinking through careful practice with frequent and substantial feedback from faculty;
- To cultivate in students a strong sense of curiosity and desire to learn; and
- To serve and reach the community through our graduates, programs, events, and continuing education.

Major Subject

The English major requires a minimum of 30 hours in English course work, 9 hours in the English core, and 21 in English electives. The maximum number of hours in the major is 39.

Courses in the major are distributed as follows:

English Core: 2000-level (9 hours)	
ENGL 2313, Reading Major American Writers	3
ENGL 2513, Reading Major British Writers I.....	3
ENGL 2523, Reading Major British Writers II	3
English Electives: 3000/4000 level (21 hours)	
One 3000/4000-level course in a literary period after 1800	3
Two 3000/4000-level courses in a literary period before 1800	6
Four elective courses, may include 6 hours of creative writing and/or film studies.....	12
Total Hours.....	30

Majors are required to include in their elective programs at least one 4000-level course in addition to the Senior Project in English. It may be used to satisfy the distribution requirement set forth above. Enrollment in 4000-level courses requires the relevant prerequisite from the English core or permission of the instructor. For reasons of continuity of study, and to assure that prerequisites have been met, majors are advised to begin their work in the English core and to complete at least six of the required nine hours before enrolling in English electives.

Teaching Certification

Students seeking secondary teacher certification in English complete a second major in education in addition to the major in English. See the School of Urban Education beginning on page 128 of this *Bulletin* for requirements.

Minor Field for English Majors

In consultation with the English advisor, students choose at least 12 hours of course work in a subject demonstrably related to English. At least six hours in the minor field must be at the 3000 or 4000 level.

TURC Tutorial

The TURC Tutorial is a four-course sequence of student-designed independent study for English majors enrolled in the Tulsa Undergraduate Research Challenge (TURC). English TURC students normally will enroll for six hours of the first-year course (ENGL 1983), and three hours each of the second- (ENGL 2983), third- (ENGL 3983), and fourth- (ENGL 4983) year courses.

Senior Project (ENGL 4973)

The Senior Project is a requirement of the College and constitutes a link between the Tulsa Curriculum and the major. In the form offered by the English faculty, the course emphasizes topics of broad, current, sometimes interdisciplinary interest in the profession of literary studies.

English (ENGL)

1004 (4 hours)

Introduction to College Writing

Review and practice in the fundamentals of college writing, including organization, paragraph development, basic research skills, logic, and mechanics. Lecture three hours per week, lab one hour per week. Some sections are designated for non-native speakers of English. Enrollment is determined by performance on placement tests.

1033 (3 hours)

Exposition and Argumentation

Emphasis on the process, conventions, and production of academic writing; refining and developing an argument; library research and documentation of sources through a variety of writing assignments such as summary/critique, editorials, reviews, and research projects. Thorough and frequent revision is integral to the preparation of all written work. Prerequisite: ENGL 1004 or satisfactory placement and diagnostic test scores.

1043 (3 hours) Block 1

Poetry and the Modern World

Examines the ways and places that poetry appears in the modern world. Texts drawn primarily from English literature and song may be combined with poetry readings, performance, creative writing, and exploration of diverse cultural events where poetry is found, to discover the worldly and 'otherworldly' dimensions of poetry.

1083 (3 hours)

Conversion Narratives

Studies in the literary treatment of conversion from ancient times to the present day. Readings from several religions representing the common events, images, and emotions of conversion narratives; the role of conversion in autobiography; adoption of religious stories and personal transformations in secular writing.

1093 (3 hours) Block 1

Reading Narrative: The World in the Book

The writer's creation of an imaginative reality in narrative fiction, poetry and drama and the devices by which the world in the book is made to reflect, refract and represent realities of the world at large. Representative texts from

all genres and periods in English and English translation.

1123 (3 hours) Block 1

Russian Poetry

Readings in representative works by major Russian poets; focus as to period and particular forms may shift from term to term.

1133 (3 hours) Block 1

Visual Confessions: Russian and European Cinema

Representative films from a range of Russian and European directors.

1981, 1982, 1983 (1-3 hours)

Tulsa Undergraduate Research Challenge Tutorial

The TURC Tutorial is a four-course sequence of student-designed independent study for English majors enrolled in the Tulsa Undergraduate Research Challenge. Prerequisite: Permission of instructor.

2013 (3 hours) Block 1

Shakespeare

An introduction to Shakespeare's works and career, with attention to historical and theatrical contexts. Readings drawn from the range of Shakespearean plays and poetry.

2043 (3 hours) Block 1

Literary Constructions of the Self

Examines representations of the 'self' in literature: readings are drawn from various historical periods and genres to reflect modern constructions of 'identity,' the 'subject,' and 'subjectivity' in specific cultural contexts.

2083 (3 hours) Block 1

African-American Autobiography

African American "life writing" from early slave narratives to the present. Figures may include Douglass, Jacobs, DuBois, Hurston, Wright, Baldwin, Malcolm X, Angelou, and Walker. Attention to relation of personal to collective "voice" and the importance of autobiography to African American literary tradition in general.

2133 (3 hours)

Images of the American West

The American West as envisioned and understood across a range of interpretations

and iconographies, primarily in literature and historical narrative, but also in film, painting, and other forms of cultural representation. Various mythologizings of “the West” as defined over time, and the persistence of such mythologies in the present. Same as HIST 2133.

2163 (3 hours) Block 1

American Culture(s): Voice(s) and Vision(s)

Texts in fiction, poetry, drama, and autobiography dealing with personal identity and cultural consciousness in relation to American ethnicities (Native, African, Hispanic, and Asian American, and others). Emphasis on contemporary materials, against a background of the historical experience from which each “voice” and “vision” seems to emerge.

2173 (3 hours) Block 2

Reading American Culture

An interdisciplinary approach to the study of culture, treating literary texts as both producers and products of the network of ideas, images, and conflicts of American “culture”. Definitions of terms that shape reading (ideology, gender, race, ethnicity) and make evident political questions at issue in both writing and reading.

2193 (3 hours) Block 1

Literary Gender: Masculine Mystique/Feminine Myth

Investigations of stories told about gender in 20th-century writing, painting, advertisement, and film. Focusing in particular on modern images of women in their relations to men in culturally diverse texts in English literature, readings reflect the ways both sexes have been defined, redefined, and transformed in modern culture. Same as WS 2193.

2273 (3 hours) Block 1

Film History

The development of cinema from its origins in the late 1890s to the present. Emphasis is on technological innovation; film styles and genres; national and international influences; the star and studio systems; the roles of writers, producers, directors; and the conjunction of aesthetic and commercial interests in the evolution of film. Same as FLM 2273.

2293 (3 hours) Block 2

Foundation of Linguistics

Basic linguistic concepts and analysis are introduced, including phonetics, phonology, morphology, syntax, and historical linguistics. Emphasis on use of linguistic theories and methods of analysis in describing human cognition, culture, and the social order. Same as ANTH 2023, LANG 2023.

2313 (3 hours) Block 1

Reading Major American Writers

Reading and discussing important American poetry, prose, and drama from the beginnings to the present, exploring critical approaches to literary study, and learning to write literary criticism.

2323 (3 hours) Block 1

Environment and Literature

Explores the development of environmental writing over the course of the past two centuries in texts by British and American authors. Covers a wide range of geographical settings and literary genres, examines each text as an argument for a particular “reading” of the environment.

2353 (3 hours) Block 1

Masterpieces of Russian Literature

Study of major works in the Russian literary tradition. Same as CPLT 3723.

2403 (3 hours)

Introduction to Creative Writing

Gateway course for the creative writing program. Offers instruction, reading, and practice in the main genres of imaginative writing, including poetry, fiction, screen/stage, and creative non-fiction.

2513 (3 hours) Block 1

Reading Major British Writers I

Reading and discussing important British poetry, prose, and drama from the Anglo-Saxon period to 1800, exploring critical approaches to literary study, and learning to write literary criticism.

2523 (3 hours) Block 1

Reading Major British Writers II

Reading and discussing important British poetry, prose, and drama from the 19th, 20th, and 21st centuries, exploring critical approaches to literary study, and learning to write literary criticism.

2981, 2982, 2983 (1-3 hours)**Tulsa Undergraduate Research Challenge Tutorial**

The TURC Tutorial is a four-course sequence of student-designed independent study for English majors enrolled in the Tulsa Undergraduate Research Challenge. Prerequisite: Permission of instructor.

2992, 2993 (2-3 hours)**Independent Study****3003 (3 hours)****Writing for the Professions**

Adapts principles of good writing to writing situations encountered in the professions. Letters, résumés, and a full investigative report in the student's discipline are required. Prerequisites: Junior standing and ENGL 1033. May not be used to satisfy electives in major.

3013 (3 hours)**The English Language: History and Structure**

An introduction to the history of the English language, including its development as a world language, and to the structure of the language – its morphology, phonology, syntax, and semantics. Emphasis on varieties of English and on the history of thought about the language.

3053 (3 hours)**Literature and Film**

Explores the relationship between literature and film, considering such topics as literature as a source for film, differences between sources and film, cinematic and literary languages, adaptation from literature to film, and the screenplay as a literary form. Course may be taken more than once on different topics. Same as FLM/WS 3153.

3113 (3 hours)**Linguistics**

The nature of language - its acquisition, structure, and cultural impact - and of basic phonology, morphology, and syntax. Includes the basic uses of linguistics in psychology, sociology, anthropology, speech pathology, and literary criticism.

3213 (3 hours)**Writing Fiction**

A creative writing workshop focused on fiction.

3223 (3 hours)**Writing Poetry**

A creative writing workshop focused on poetry.

3243 (3 hours)**African American Literature**

Selected African American fiction, drama, and poetry studied in cultural and historic contexts. Writers may include Wheatley, Douglass, Harper, Dunbar, Chesnutt, Larsen, Hughes, Hansberry, Ellison, Morrison, Dove, Wilson.

3313 (3 hours)**19th-Century American Literature**

The development of America's emerging national literature in prose, poetry, and fiction, before and after the Civil War. Writers may include Emerson, Thoreau, Fuller, Douglass, Whitman, Dickinson, Poe, Hawthorne, Melville, Stowe, Twain, James, and Wharton.

3323 (3 hours)**20th-Century American Literature**

The forms and directions of modern American writing from the turn of the century to c. 1960, tracing and critically considering the canon with attention to shifting cultural contexts. Figures may include Dreiser, Eliot, Wharton, Frost, Fitzgerald, O'Neill, Cather, Faulkner, Hurston, Stevens, Hellman, Ellison, O'Connor.

3333 (3 hours)**Contemporary American Literature**

American writing since c. 1960, exploring 'postmodern' in relation to 'modern' consciousness and craft in contemporary cultural contexts. Works drawn from a range of authors and genres, with attention to the multicultural diversities of the late 20th-century literary scene, as well as continuities with and divergences from the 'classic' American tradition.

3343 (3 hours)**African American Novel**

The origin and development of the African American novel, with attention to literary, cultural, and historic contexts. Works will be drawn from the literature of Reconstruction, the Harlem Renaissance, urban realism, Modernism, and the Black Arts movements, as well as contemporary writers.

3353 (3 hours)**Contemporary British Literature**

Representative works of contemporary British literature from 1939-present. Figures may include Orwell, Greene, Graves, Lowry, Murdoch, Amis, Lessing, Fowles, Naipaul, Rushdie, Hughes, Larkin, Gunn, Walcott, Heaney, Osborne, Pinter, Stoppard, Drabble, Byatt, and others.

3423 (3 hours)**Medieval British Literature**

Representative works, some in Middle English, from 13th through 15th centuries, with attention to Chaucer, the Gawain poet, and other writers. Texts may include Sir Gawain and the Green Knight, Pearl, Piers Plowman, The Book of Margery Kempe, selected Canterbury Tales, and Le Morte D'Arthur.

3433 (3 hours)**16th-Century British Literature**

Texts from 16th-century England, with emphasis on non-dramatic poetry and particular attention to Spenser's *Faerie Queen*. Figures may include More, Wyatt, Philip and Mary Sidney, Foxe, Hooker, Puttenham, Marlowe, Raleigh, Spenser, and others.

3443 (3 hours)**17th-Century British Literature**

Texts from 17th-century England up to the Restoration, with emphasis on poetry and drama. Figures may include Donne, Jonson, Wroth, Cary, Webster, Middleton, Beaumont, Fletcher, Herrick, Herbert, Marvell, Bacon, Burton, Philips, and others.

3453 (3 hours)**Restoration and 18th-Century Literature**

Representative literary works of the Restoration and 18th century. Figures may include Dryden, Behn, Congreve, Addison, Steele, Swift, Defoe, Gay, Thomson, Collins, Gray, Fielding, Pope, Montagu, Johnson, Boswell, Thrale, and others.

3463 (3 hours)**The Romantic Period in British Literature**

Representative literary works of the Romantic movement in England in the late 18th century and early 19th century. Figures may include Burney, Wollstonecraft, Baillie, Wordsworth, Coleridge, Inchbald, Opie, Smith, Austen, Byron, Barbauld, Edgeworth, Percy and Mary Shelley, Keats, Clare, Bowles, and others.

3473 (3 hours)**The Victorian Period in British Literature**

British literature from 1830-1900. Figures may include Tennyson, the Brontës, Carlyle, Mill, Ruskin, Browning, George Eliot, Dickens, Hardy, Hopkins, Gissing, Arnold, Dante Gabriel and Christina Rossetti, and Kipling. Same as WS 3473.

3483 (3 hours)**Early 20th-Century British and Irish Literature**

Developments and experimentation in fiction, poetry, and drama in England and Ireland from 1900-1945. Figures may include Conrad, Joyce, Richardson, Woolf, Lawrence, Mansfield, Yeats, Lady Gregory, Shaw, Sitwell, Eliot, Owens, West, Graves, Rhys, and Forster, with attention to relations between aesthetic and social contexts.

3503 (3 hours)**Modern Comparative Fiction**

A broad, international survey of the revolution that transformed literature and the arts in the late 19th and early 20th centuries. Avant-garde experiments challenged the conventions of realism, generating new and often scandalous forms that continue to shape contemporary art and writing. Readings include poetry, fiction, and drama. Works will be engaged alongside painting, film, and music from the era.

3513 (3 hours)**Modern Women Writers**

Focuses on modern women writers in relation to both the canons and avant gardes of the 20th and 21st centuries; selected 19th century antecedent writers may also be included. Looks analytically and historically at fiction, poetry, and drama by women writers of varying ethnic, class, racial, and sexual backgrounds. Contemporary critical discussion of women and gender. Same as WS 3513.

3523 (3 hours)**Gender in Modernism and Postmodernism**

Developments and experimentation with the gendering of fiction and poetry by men and women writers in the 20th and 21st centuries. Explores the unstable borders between definitions of modernism and postmodernism (as names of historical periods, philosophies, and aesthetic methods) and between genders,

including the problematic of “differences” (e.g. race, class, sexuality). Same as WS 3523.

3703, 3713, 3723, 3733, 3743, 3763, 3773, 3783, 3793, 3803, 3813, 3823, 3833, 3843, 3853, 3863, 3873, 3883, 3893 (3 hours each)

Special Topics in Literature and Language I

The study of special bodies of literature in English (ethnic, cultural); the relation of literature to other disciplines (philosophy, music); and English language areas (rhetoric, semantics) and of the relation of language to other disciplines (politics, anthropology).

3753 (3 hours)

Black American Women Writers

Representative works of poetry, fiction and drama by African American women, studied in cultural and historical context. Writers may include Wheatley, Jacobs, Hopkins, Larsen, Hurston, Marshall, Shange, Morrison, Lorde, and Dandicat. Same as WS 3753.

3981, 3982, 3983 (1-3 hours)

Tulsa Undergraduate Research Challenge Tutorial

The TURC Tutorial is a four-course sequence of student-designed independent study for English majors enrolled in the Tulsa Undergraduate Research Challenge. Prerequisite: Permission of instructor.

4003 (3 hours)

Scholarly Writing

Advanced expository writing for students considering graduate school and writing for professional scholarly publications. Emphasis on using theory in scholarly discussion; doing, analyzing, and incorporating scholarly research; organizing long papers; and writing at a professional level. Prerequisite: English core courses or permission of instructor.

4113 (3 hours)

History of Literary Criticism and Theory

A selective survey of major trends and issues in the criticism of literature from Plato to the present. Emphasis on particular schools of criticism and on particular theoretical issues and problems. Prerequisite: Six hours of English core or permission of instructor.

4123 (3 hours)

Modern Literary Theory

Topics in modern and contemporary criticism and theory. Prerequisite: Six hours of English core or permission of instructor.

4163 (3 hours)

Film Genres

Intensive study of a particular genre of film, including, for example, the musical, the Western, the film noir, the comedy, the gangster film, or the social problem film. Students study major examples of the genre and read the appropriate theoretical and critical books and essays. Course may be taken more than once in different film genres. Same as FLM 4163.

4173 (3 hours)

The Jewish Experience in Film

Explores the varieties of representations of the Jewish people in feature-length, major-release narrative films, both American and international. A range of social issues will be addressed, including: immigration, assimilation, internal and external conflict, anti-Semitism, the Holocaust, and contemporary experiences. Presents the Jewish experience as both particular and universal. Same as FLM 4173.

4263 (3 hours)

Advanced Poetry Writing

Further practice in writing, reading, and discussing poetry. Possible goals include: attempting longer, complete forms (series, epic, chapbook, book, etc.), entering networks/communities of contemporary poets, and submitting work for publication. Prerequisite: ENGL 3223 or permission of instructor.

4393 (3 hours)

The American Novel

A study of major figures and innovations in American fiction, principally in 19th and 20th centuries, with attention to novel theory and to the Americanness of the American novel. Writers may include Hawthorne, Melville, Stowe, Twain, James, Wharton, Hemingway, Faulkner, and Morrison. Prerequisite: ENGL 2313 or permission of instructor.

4483 (3 hours)

The British Novel I: Defoe to the Brontës

Development of the British novel during the 18th century and the first half of the 19th, with

attention to experiments in form and varieties of content, especially in works by Defoe, Richardson, Fielding, Sterne, Austen, Scott, and Charlotte and Emily Bronte. Prerequisite: ENGL 2513 or permission of instructor.

4493 (3 hours)

The British Novel II: Dickens to Woolf

Major texts in the development of the English novel during the latter half of the 19th century and the 20th century. Figures may include George Eliot, Dickens, Hardy, Conrad, Lawrence, Joyce, Forster, and Woolf. Prerequisite: ENGL 2523 or permission of instructor.

4513 (3 hours)

Chaucer

The poetry of Geoffrey Chaucer, with attention to historical context. Prerequisite: ENGL 2513 or permission of instructor.

4543 (3 hours)

Shakespeare

The plays and poems of William Shakespeare, with attention to his professional career and historical context. Prerequisite: ENGL 2513 or permission of instructor. Same as FLM 4543.

4563 (3 hours)

Milton

Major poems and selected prose of John Milton, with attention to historical context. Prerequisite: ENGL 2513 or permission of instructor.

4593 (3 hours)

Internship

Knowledge and skills in language and literature applied and developed in approved organization on or off campus (journal, humanities council, etc); arranged through prior written agreement among student, faculty, supervisor, and sponsoring organization. Provides credit toward the degree, not the major. Interested students should consult the director of undergraduate studies. Prerequisites: English major, junior standing, and at least a 2.75 GPA in major.

4703, 4713, 4723, 4733, 4743, 4753, 4763, 4773, 4783, 4793 (3 hours each)

Major Figures

Major literary figures drawn from all periods, medieval to modern, and from all literature written in English. Prerequisite: Relevant

English core course(s) or permission of instructor.

4803, 4813, 4823, 4833, 4853, 4863, 4873, 4883, 4893 (3 hours each)

Special Topics in Literature and Language II

Advanced study of special subjects - literary, social, or linguistic - including group literatures (e.g., gay and lesbian, postcolonial), schools of criticism (e.g., semiotics, poststructuralism), movements (e.g., modernism, postmodernism), literary modes (e.g., pastoral), entertainment law, great directors, and periods and genres not covered in listed courses. Emphasis on research. Prerequisite: Relevant English core course(s) or permission of instructor.

4843 (3 hours)

Law, Literature, and Detection

The relationship of law and literature in a variety of forms: law as literature, law in literature, trials as dramas, detection and surveillance, espionage and terrorism, and the legal, ethical, and political ramifications of the law. Readings from Conan Doyle, Melville, Galsworthy, Thoreau, Plato, Poe, and others.

4973 (3 hours)

Senior Project

Seminar designed to enable students to complete the English major in stimulating colloquy with each other, under the direction of a faculty member, in the fall of the senior year. Topics include issues of broad, current, sometimes interdisciplinary interest in the profession of literary studies.

4981, 4982, 4983 (1-3 hours)

Tulsa Undergraduate Research Challenge Tutorial

The TURC Tutorial is a four-course sequence of student-designed independent study for English majors enrolled in the Tulsa Undergraduate Research Challenge. Prerequisite: Permission of instructor.

4993 (3 hours)

Independent Study

Development by an advanced student of a special project founded on earlier course work and considered by the instructor and the English advisor to bear a useful relation to the student's overall program. May be taken once for credit. Prerequisite: Relevant English course and permission of instructor.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5353 (3 hours)**Teaching Second Language Writing**

Survey of first and second-language writing theories and research methods, as well as common pedagogical approaches to working with linguistically and culturally diverse writers. Students will read, evaluate, design, and adapt instructional materials for second-language writers. A service-learning assignment will provide students with the opportunity to serve as second-language-writing tutors on campus and in the community.

Environmental Policy

Director

Chad Settle, Economics

The environmental policy major is an interdisciplinary program in environmental studies. It rests on the premise that students must be able to combine an understanding of the scientific basis for environmental problems with knowledge of human needs, history, politics, and economics to derive practical solutions to environmental issues. Correspondingly, course work involves classes with environmental scholars in various natural science, social science, and humanities departments. While providing a rigorous and broad educational experience, the major also allows students to custom design an area of strength using elective course work.

Students are encouraged to use an internship or study abroad as a capstone experience for the major. Both Bachelor of Arts and Bachelor of Science degrees are offered. In addition to the differences in core requirements, note the differences in MATH and STAT requirements below.

Students majoring in environmental policy should carefully note the prerequisites listed below and plan the use of their elective courses accordingly. Planning in conjunction with the program advisors is highly recommended.

Course Requirements

The Bachelor of Arts in environmental policy requires a minimum of 35 hours in the major, while the Bachelor of Science in environmental policy requires a minimum of 38 hours in the major. In both cases, at least two-thirds of the hours must be at the 3000 or 4000 level.

Natural and Physical Sciences

Two of the following courses:

BIOL 1033, The Environment and Humanity

BIOL 1611/1603, Introduction to Organismal and Evolutionary Biology and Lab

BIOL 1711/1703, Introduction to Molecular and Cellular Biology and Lab

BIOL 3164, Field Ecology

The following course:

GEOL 1014, Physical Geology

Two of the following courses:

GEOL 2003, History of the Biosphere

GEOL 2053, Earth Resources

GEOL 2063, Geological Hazards and Catastrophes

GEOL 3573, Environmental Geology

GPHY 2503, Physics of the Earth

The following:

CHEM 1023/1021, Chemistry II and Lab *or*

CHEM 1004, Chemistry in Medicine *and* CHEM 2024, Energy Technology for the Future

Social Sciences

The following:

ECON 3123, Resources and the Environment

ECON 4163, Policy Analysis

ECON 3073, Applied Econometric Methods

One of the following:

POL 3223, Politics of Administration *or* POL 3243, Environmentalism

One of the following:

SOC 3143, Environmental Sociology *or* SOC 3113, Population and Ecology

The following:

For the B.A. degree: SOC 2023, Statistics for the Social Sciences

For the B.S. degree:

MATH 2014, Calculus I

MATH 2024, Calculus II

STAT 2013, Introduction to Statistics

STAT 4813, Statistical Methods for Scientists and Engineers *or*

BIOL 4333, Experimental Design

Electives

Students must choose 9 additional hours. Electives should be chosen from one or two related fields to give an area of strength. In planning and selecting electives, students must be aware of course prerequisites.

BIOL 3164, Field Ecology

BIOL 3314, The Fungi and Algae

BIOL 3504, Plant Diversity

BIOL 4023, Environmental Microbiology

BIOL 4093, Population Ecology

BIOL 4213, Environmental Ethics and Conservation

CHEM 3013 and 3011, Organic Chemistry I and Lab

CHEM 3023 and 3021, Organic Chemistry II and Lab

CHEM 4053, Environmental Chemistry

CHEM 4083, Analytical Chemistry I

CHEM 4133, Biochemistry

ECON 3023, Macroeconomic Theory

ECON 3033, Microeconomic Theory

ECON 3083, International Economics

ECON 3113, Economic Development

GEOG 3053, Geomorphology

GEOL 2003, History of the Biosphere

GEOL 4513, Hydrogeology

GEOL 4523, Environmental Geochemistry

HIST 2383, American Environmental History

POL 3003, Congress and the Presidency

POL 3023, Politics of the Judicial System

POL 4073, American Presidency

SOC 3083, Urban Sociology

SOC 3113, Population and Ecology

SOC 3143, Environmental Sociology

SOC 3703, Sociology of Health, Illness, and Medicine

SOC 4013, Sociology of Law

SOC 4823, Globalization

Minor Field for Environmental Policy Majors

Students must, with the advisor's approval, enroll in at least 12 hours in a minor field.

Six of these hours must be at the 3000 level or above.

Film Studies

Chair

Joseph L. Rivers

Professors

Joseph A. Kestner

Joseph L. Rivers

Applied Professors

David L. Moncrief

Michael L. Wright

Associate Professor

Jeff Van Hanken

Bachelor of Arts in Film Studies

The 33-hour major in film studies provides liberal arts students with the history, theory, and production techniques of film and prepares the professionally minded student with the knowledge and experience necessary to continue to study in graduate school.

Learning Objectives

- To provide liberal arts students with the history, theory, and production techniques of film, including screenwriting, animation, documentary, narrative filmmaking, and film scoring;
- to prepare the student for employment upon graduation; and
- to prepare the student for graduate-level study in such areas as screenwriting, post-production, and film scoring.

Requirements

Students begin with two required courses in the history and theory of film:

FLM 2273, Film History

FLM 3283, Film Theory and Criticism

In the senior year, film studies majors spend a semester completing a project that may be a short film (narrative, documentary, animated), screenplay, or scholarly study: FLM 4973, Advanced Film and Video Seminar.

Electives

Film studies majors must then take a minimum of 9 courses from the following list of electives. At least 2 of these 9 courses, one in the second term of first year, must be in Production, level to be determined by consultation with the film studies advisor. A total of 7 of these 9 courses must be at the 3000 level or above. The entire schedule – with a particular emphasis on a subfield such as production, screenwriting, recording/scoring, and/or film theory/history – will be determined by the student in consultation with a film studies advisor.

Film studies majors may minor in a variety of fields. The requirements for a minor in film scoring are described on page 194 of this *Bulletin*. Students may emphasize screenwriting in the creative writing minor or certificate described on page 264 by selecting FLM 2633, 3063, 3143, and 4143 as electives.

CPLT 2713, Faust Myth German Literature in Film
FLM 2003, Scripting for Young Audiences
FLM 2013, Introduction to Filmmaking
FLM 2023, Foundations of Screenwriting
FLM 2033, Crime on Film
FLM 2043, American Culture on Film
FLM/ART 2063, Digital Art: Survey and Practice
FLM 2123, Survey of Modern Screenwriting
FLM 2133, Music and Film
FLM 2153, Photography I
FLM 2213, The Music of the Harry Potter Films
FLM 2313, Gangster Films
FLM 2373/THEA 2173, Survey of Modern Playwriting
FLM 2453, Music and Society in the Americas through Film
FLM 2633, Contemporary Plays for Stage and Screen
FLM 3013, Scripting for Animation, Comics and Gaming
FLM 3023, Documentary Expression in Film and Video
FLM 3033, American Politics and Film
FLM 3053, Playwriting
FLM 3063, Adaptation to Stage and Screen
FLM 3103, Lighting Design
FLM 3113, Scripting for TV, Radio, Podcasting
FLM 3123, Entertainment Law
FLM 3143, Screenwriting I
FLM/WS 3153/ENGL 3053, Literature and Film
FLM 3213, Introduction to Digital Recording
FLM 3223, Introduction to Film Scoring
FLM 3233, Chinese History through Film
FLM 3243, Graphic Communication I
FLM 3323, Politics and History in Soviet Film
FLM 3333, Spanish Film
FLM 3363, History of Latin America through Film
FLM 3413, Scoring for Film, TV, and Video Games
FLM 3423/GERM 3023, German Film
FLM 3443, Adobe Photoshop
FLM 3463, Adobe Illustrator
FLM 3503, The Middle Ages on Film
FLM 3473, Film/Video Production: Studio
FLM 3573, Film/Video Production: Location
FLM 3593/4593, Internship
FLM 3693, Cinéma et Culture
FLM/HIST 3783, Greece and Rome in Film
FLM 3993/4993, Independent Study
FLM 4003, Playwriting Workshop
FLM 4014/4024, Narrative Film Production I and II
FLM 4113, Documentary Workshop
FLM 4143, Screenwriting II
FLM 4153, Advanced Post-Production

FLM 4163, Film Genres: Sci-Fi/The Western/Horror/Film Noir/Neo-Noir/The 1970s
 FLM 4173, The Jewish Experience in Film
 FLM 4183, Film Scoring Workshop
 FLM 4243, Screenwriting III
 FLM/ART 4253, Interactive Multimedia
 FLM/ART 4263, Digital Video and Animation
 FLM 4333, Directing I
 FLM 4513, Advanced Lighting Design
 FLM/ENGL 4543, Shakespeare
 FLM 4973, Advanced Film and Video Seminar

Minor in Film Studies

To pursue a minor in film studies, students must take FLM 2273, Film History, and FLM 2283, Film Theory and Criticism, and at least six additional hours at the 3000-level or above.

Film Studies (FLM)

1123 (3 hours) Block 1

Philosophy and Film

Film is the democratic art form par excellence. From this point of view, we study revenge, honor, rivalry, jealousy, betrayal, love, sacrifice, heroism, conformism, fear, and social cowardice, as these are reflected in classic films such as *High Noon* and *The Godfather*. Same as PHIL 1123.

2003 (3 hours) Block 1

Scripting for Young Audiences

The goal of the course is to provide a foundation in writing scripts for young audiences in television, film and theatre. Students will undertake a variety of exercises, read scripts, see media samples, learn proper formatting, and other key techniques.

2013 (3 hours)

Introduction to Filmmaking

The goal of the course is to provide a foundation in two key “languages” of film: 1) the language of the script and screenwriting, and 2) the language of filmmaking, from preproduction through postproduction. Both areas will be explored through practical work built on a foundation of theory and key definitions.

2023 (3 hours)

Foundations of Screenwriting

Exposes the student to essential readings in the art and craft of writing film scripts; this is a gateway course to the screenwriting course

sequence. Concurrently, the course includes numerous workshop sessions in which the innate creativity of students is encouraged.

2033 (3 hours) Block 1

Crime on Film

Examines the changes in movies about crime, criminals and the cops/detectives who pursue them, from the 1930s to the most recent decade.

2043 (3 hours) Block 1

American Culture on Film

Popular film and fiction communicate perspectives essential to the functioning of contemporary culture. Students gain the analytical vocabulary with which to recognize and describe contemporary issues presented by entertainment media. Non-American films and texts give a sense of which issues are peculiar to American culture and which are shared internationally. Same as CPLT 2043.

2063 (3 hours)

Digital Art: Survey and Practice

Introduction and investigation of the role of digital media in the world of art production and reception. Emphasis on digital media alone or in combination with traditional media as a tool to produce original, expressive works of art. Topics: Communicative art and interactivity with practice of Photoshop, HTML, and Flash. Prerequisites: ART 1103 and 1183. Same as ART 2063.

2123 (3 hours)**Survey of Modern Screenwriting**

Introduction to a variety of scripts through contrasts and comparisons of genres. Students will have the opportunity to do some writing in the screenplay form in order to deepen their understanding.

2133 (3 hours) Block 1**Music and Film**

This course explores the nature of musical expression in general, and music's particular contribution to the development of motion pictures. A chronological survey of the musical techniques and styles used in film, and the strategies for analyzing and evaluating film music. No previous musical experience necessary. Same as MUS 2133.

2153 (3 hours)**Photography I**

Introduction to B/W photography, from a working knowledge of the camera to film processing and printing in a darkroom using traditional light-sensitive materials, and to the history of photography. Explores fundamental principles, techniques, and application of camera-based image making. Students must have an adjustable camera. Prerequisite: ART 1103 or 1183. Same as ART 2153.

2163 (3 hours) Block 1**Women and Democracy in Film**

Examines how democracy affects questions of authority and freedom that arise between women and men, as interpreted through film and the classics of political thought. Same as WS/POL 2153.

2213 (3 hours) Block 1**The Music of the Harry Potter Films**

Investigates the role of musical scoring for film, focusing on how the music underscore of the Harry Potter films, composed primarily by John Williams, Patrick Doyle, Nicholas Hooper, and Alexandre Desplat, supports story, character, and picture. Course will begin with a close look at how a film composer works and thinks in a musical language, the elements of music, and the technical and aesthetic functions of film music. Course will continue with a look at the thematic and dramatic design of the music from each of the films. Same as MUS 2213.

2253 (3 hours) Block 1**African Film**

Examines how African filmmakers have chosen to represent Africans, their civilizations, nations, histories and contemporary realities through films while challenging Euro-American stereotypical representations of the African continents.

2273 (3 hours) Block 1**Film History**

Development of cinema from its origins in the late 1890s to the present. Emphasis is on technological innovations; film styles and genres; national and international influences; the star and studio systems; roles of writers, producers, directors; and the conjunction of aesthetic and commercial interests in the evolution of film. Same as ENGL 2273.

2313 (3 hours) Block 1**Gangster Films**

Explores the meaning of genre, including what the gangster topos makes available to filmmakers. Promotes awareness of the range of issues addressed by this genre. Because film presents its argument by means classified as aesthetic, analysis of gangster films enhances understanding of ways in which sense-perceptible messages influence thought, decision, and action. Same as CPLT 2313.

2373 (3 hours) Block 1**Survey of Modern Playwriting**

Foundation course in contemporary plays from around the world. Students will investigate the nature and role of playwriting in various cultures through reading plays and additional materials. They will also undertake explorations of playwriting through a series of exercises and short plays. Same as THEA 2173.

2453 (3 hours) Block 2**Music and Society in the Americas through Film**

Introduction to the cultural history of modern music in the Americas. Explores the context of several American music genres including Blues, Jazz, Tango, Broadway, Caribbean styles, Country Tejano/Conjunto, Rock and Roll, Reggae and Hip Hop. Emphasis on understanding cross-cultural influences, interpreting musical commentary on gender, community, commercial and political trends in

the larger historical development of music in the Americas. Same as HIST/MUS 2453.

2633 (3 hours) Block 1**Contemporary Plays for Stage and Screen**

In-depth investigation of the comparisons and contrasts between writing for stage vs. screen. Focuses on a range of styles, approaches and genres as they relate to representations of American life and culture. Same as THEA 2633.

3013 (3 hours)**Scripting for Animation, Comics and Gaming**

Investigates the creative nature of three media which incorporate old and new approaches to storytelling.

3023 (3 hours)**Documentary Expression in Film and Video**

Hands-on experience and editing skills for documentary video production. Students will analyze documentary structure and become more critical documentary viewers; learn the traditions of documentary by screening famous documentary films; and learn to select subjects, edit material to achieve the strongest effects, and devise sound and music as crucial elements of documentary filmmaking. Same as COM 3023.

3033 (3 hours)**American Politics and Film**

The purpose of this course is to consider the role popular American films have played in the creation, maintenance, and subversion of America's public myths. Same as POL 3033.

3053 (3 hours)**Playwriting**

An examination of the art of writing for the stage. Students examine the nature of theatrical expression through reading short plays; doing exercises that explore characterization, plot, structure, and style; and writing a progressive sequence of short plays. Same as THEA 3053.

3063 (3 hours)**Adaptation to Stage and Screen**

Focuses on artistic translation of a story or story essence from one form to another. Covers adaptation from non-theatrical forms to stage or film and from one theatrical form to another. Students will explore adaptation

techniques through various exercises and write a short play or screenplay based on a short story. Same as THEA 3063.

3103 (3 hours)**Lighting Design**

Emphasis on theory and practice of designing theatrical productions including electricity, instrumentation, color theory, control systems, drafting the design, and special effects. Prerequisite: THEA 2351 or permission of instructor. Same as THEA 3103.

3113 (3 hours)**Scripting for TV, Radio, Podcasting**

Investigates the creative nature of three media which are remotely transmitted yet are experienced intimately. They are closer in reception to fiction or poetry than film or theatre, yet require the performance and technical elements of those forms. Students will become familiar with key models through scripts and resource material, then attempt to create original scripts in each form.

3123 (3 hours)**Entertainment Law**

This course will provide familiarity with a range of legal issues important to students planning to work in the film and television industries, including: copyright law, what is "fair use," problems posed to the film industry and the law by new digital technologies.

3143 (3 hours)**Screenwriting I**

Fundamentals of the screenwriter's art, craft, and business. Covers a variety of film scripts ranging in style, genre, locale, and era, and a selection of films made from these scripts. Students also write a progressive sequence of screenplays and study the business of independent filmmaking and working for studios.

3153 (3 hours)**Literature and Film**

Explores the relationship between literature and film, considering such topics as literature as a source for film, differences between sources and film, cinematic and literary languages, adaptation from literature to film, and the screenplay as a literary form. Course may be taken more than once on different topics. Same as ENGL 3053/WS 3153.

3213 (3 hours)**Introduction to Digital Recording**

Digital audio recording, mixing, and mastering techniques using Pro Tools systems. Same as MUS 3113.

3223 (3 hours)**Introduction to Film Scoring**

Music and film studies majors only.

Introduction to the art and technology of scoring music for film. Students compose original film cues and collaborate with student directors. Prerequisite: Permission of instructor. Same as MUS 3223.

3233 (3 hours)**Chinese History through Film**

Representations of political and social history of modern China in recent Chinese films, including changing gender roles, the exploitation of women, conflict between tradition and modernization with emphasis on family structure, the role of the Communist Party in the Chinese Revolution, and the relation of the people to the state. Same as HIST 3233.

3243 (3 hours)**Graphic Communication I**

Introduction to graphic design as a medium of communication. Promotes appreciation of visual tools and principles that lead to exploration and personal methodology. Techniques of pre-print production, with the use of typography, photography, and illustration. Students are taught the effectiveness of visual communication and its practices in the professional world today. Prerequisites: ART 1103, 3443. Same as ART 3243.

3283 (3 hours)**Film Theory and Criticism**

Employing the many tools available for analyzing film, we can use the lens of race, class, ethnicity, cultural heritage, gender, political power, style, reception theory, or author as a means of organizing our thoughts about a movie or a group of movies.

3323 (3 hours)**Politics and History in Soviet Film**

Overriding theme will be how Soviet films not only represented politics at different stages in the 20th century but also created a usable history. Structure of the course will vary from a

broad survey of Soviet film to special topics such as World War II. Same as HIST 3323.

3333 (3 hours)**Spanish Film**

History of Spanish film and analysis of historically important, critically renowned, and internationally recognized works and their directors. Particular attention to the movies as reflections of and reactions to the socioeconomic conditions, cultural norms, and predominant values of the Spain in which they are set or produced. Prerequisite: SPAN 2013, departmental approval through placement, or permission of instructor. Same as SPAN 3333.

3343 (3 hours)**Digital Photography**

Students learn to use a digital camera, utilize Photoshop, and make inkjet prints. Emphasis on project development and understanding contemporary trends in the medium. Students will need access to a DSLR camera. Prerequisite: ART 2153 or permission of instructor. Same as ART 3323.

3363 (3 hours)**History of Latin America through Film**

An examination of selected episodes in the history of Latin America/the Americas through film, focusing on European exploration, colonization, slavery, evangelization, economic development, social revolution, civil war, the drug trade, migration, and transnational issues. Same as HIST 3363.

3413 (3 hours)**Scoring for Film, TV, and Video Games**

Develops technique and skill in composing music for film, television and video games and an understanding of the business and how to succeed in it. Composing for different genres of film and television (drama, action, comedy, animation, etc), video game music techniques, sound-alikes, midi sequencing, and audio mixing. Students are required to complete a final project in collaboration with a student film director in the scoring of an original film, or a similar project that involves collaboration with a director. Prerequisite: FLM/MUS 3223. Same as MUS 3413.

3423 (3 hours)**German Film**

History of German film, the work of individual directors, film genres, film techniques and tools

of analysis, with a particular focus on film as a reflection of or reaction to the socioeconomic conditions, cultural norms, and predominant values of the era in which it is set or produced. Prerequisite: GERM 2013 or equivalent, departmental approval through placement, or permission of instructor. Same as GERM 3023.

3443 (3 hours)

Adobe Photoshop

Techniques and visual vocabulary of contemporary illustration, focusing on today's dominant image generating application, Adobe Photoshop. Lessons begin with generating basic shapes, textures, and lighting, and rendering objects, layering and creating montage effects. Images are used in combination with type design in real world illustration assignments and individual creative projects. Prerequisite: ART 1103 or THEA 1223. Same as ART 3443.

3463 (3 hours)

Adobe Illustrator

Techniques and visual vocabulary of digital vector illustration and typography using the graphic application Adobe Illustrator. Lessons begin with generating basic linear shapes, patterns, gradations, and blends. We then move on to combinations of Adobe Illustrator and Adobe Photoshop. Some real world illustration problems will be assigned. Prerequisites: ART 3443 and permission of instructor. Same as ART 3463.

3473 (3 hours)

Film/Video Production: Studio

Writing, performance, and technical production of video programs and program segments in the studio. Emphasis on a studio-laboratory setting. Applications include broadcast or corporate television news writing, interviewing, and production. Same as COM 3473.

3503 (3 hours)

The Middle Ages on Film

A thematic examination of the Middle Ages as portrayed in film. Modern interpretations and representations will be juxtaposed with readings from original sources and scholarship. Same as HIST 3503.

3573 (3 hours)

Film/Video Production: Location

Writing, performance, and technical production of video programs in non-studio settings. Applications include broadcast or corporate script writing, electronic news gathering, training videos, and television 'magazine' features. Same as COM 3573.

3593 (3 hours)

Internship

Students work with a corporation, non-profit, or film shoot to apply their expertise in the professional business world.

3693 (3 hours)

Cinéma et Culture

French film perspectives on cultural concerns: war and decolonization as they redefine French national identity, the Americanization of French culture, and patriarchal politics and cultural subversion. Prerequisite: FR 3023 and FR 3033, or equivalent, departmental approval through placement, or permission of instructor. Same as FR 3693.

3783 (3 hours)

Greece and Rome in Film

A thematic examination of the ancient civilizations of Greece and Rome as portrayed in film. Modern Interpretations and representations will juxtaposed with readings from original sources and scholarship. Same as HIST 3783.

3993 (3 hours)

Independent Study

Students work with a faculty mentor to develop special projects.

4003 (3 hours)

Playwriting Workshop

Examination of playwriting styles and methods from the latter half of the 20th century to present day. Students write a non-naturalistic full-length play, using a variety of approaches and techniques for creating and rewriting such a work for the stage. Same as THEA 4003.

4014 (4 hours)

Narrative Film Production I

Takes students on a step-by-step process from the inception of a short film idea to its realization as a completed work in a series of projects. Explores processes involved in creating and writing a screenplay,

storyboarding and planning the film, shooting the film, and finalizing the project through editing, viewing, feedback, and reediting. Prerequisite: FLM 2013 or permission of instructor. Same as THEA 4014.

4024 (4 hours)

Narrative Film Production II

Takes students on a step-by-step process through working on films up to thirty minutes long. Focuses on critical professional tools such as storyboards, shooting schedules, working with collaborators, and editing in Final Cut Pro and/or Avid. Prerequisite: THEA/FLM 4014. Same as THEA 4024.

4113 (3 hours)

Documentary Workshop

History, philosophy and practice of documentary journalism in the United States. Interviewing, writing and producing publication-quality documentary journalism in the field. Same as COM 4113.

4143 (3 hours)

Screenwriting II

Explores critical genres in contemporary cinema from the writer's perspective. Students will examine the genres through readings and exercises. Semester projects will include writing a complete screenplay in a particular genre, exploring the rewriting process, and developing techniques for marketing one's script. Prerequisite: FLM 3143 or permission of instructor.

4153 (3 hours)

Advanced Post-Production

Advanced course in which students will explore new technological methods of filmmaking.

4163 (3 hours)

Film Genres: Sci-Fi/The Western/Horror/Film/War/Comedy/Road/Noir/Neo-Noir/The 1970s

Intensive study of a particular genre of film, including, for example, the musical, the Western, the film noir, the comedy, the gangster film, or the social-problem film. Students study major examples of the genre and read the appropriate theoretical and critical books and essays. Course may be taken more than once in different film genres. Same as ENGL 4163.

4173 (3 hours)

The Jewish Experience in Film

Explores the varieties of representations of the Jewish people in feature-length, major-release narrative films, both American and international. A range of social issues will be addressed, including: immigration, assimilation, internal and external conflict, anti-Semitism, the Holocaust, and contemporary experiences. Presents the Jewish experience as both particular and universal. Same as ENGL 4173.

4183 (3 hours)

Film Scoring Workshop

Music and film studies majors only. Musical scoring of more extended film projects, collaboration with student directors, and participation in a live music recording session. Prerequisite: FLM 3223.

4243 (3 hours)

Screenwriting III

An investigation of the long form screenplay, with focus on a variety of genres. Prerequisite: FLM 3143 or permission of instructor.

4253 (3 hours)

Interactive Multimedia

Study of the principles and fundamental techniques for creating multimedia projects that can explore their potential for critical artistic expression. Examines issues specific to onscreen interaction and time-based media. Tools such as Flash, Dreamweaver, and other supporting programs will be covered. Students investigate alternative art discourses using interactive digital technologies. Same as ART 4253. Prerequisites: ART/FLM 3443, ART/FLM 3463, or permission of instructor.

4263 (3 hours)

Digital Video and Animation

Students use the computer as a creative tool and incorporate digital media in their process and delivery format. Projects may include digital photography, mixed media, digital video, animation, and sound editing. Intended for students who would like to improve their sense of observation, timing, and motion through video/animation techniques. Same as ART 4263. Prerequisites: ART/FLM 4253 or permission of instructor.

4333 (3 hours)**Directing I**

Mastering structural analysis of a play, and learning to communicate effectively with actors and designers concerning directorial interpretations. Prerequisites: Required core courses for theatre majors and THEA 4973, or permission of instructor. Same as THEA 4333.

4513 (3 hours)**Advanced Lighting Design**

Introduction to CAD for lighting design and skill development in design applications for different venues and genres including dance, opera, musicals, and plays. Advanced color theory, and experience with a variety of control systems. Prerequisites: THEA 3103 or permission of instructor. Same as THEA 4513.

4543 (3 hours)**Shakespeare**

The plays and poems of William Shakespeare, with attention to his professional career and

historical context. Prerequisite: ENGL 2513 or permission of instructor. Same as ENGL 4543.

4593 (3 hours each)**Internship**

Students work with a corporation, non-profit, or film shoot to apply their expertise in the professional business world.

4973 (3 hours)**Advanced Film and Video Seminar**

Required seminar in which students apply their knowledge of cinema to develop a product to present for graduate study or professional evaluation – a narrative film, documentary, or screenplay, or a scholarly essay in film history or theory. Occasional sessions emphasize grant-writing, proposal submissions, agency, marketing, auditioning, and distribution.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Students work with a faculty mentor to develop special projects. Prerequisite: Permission of instructor.

History

Chair

Thomas Buoye

Professors

Joseph C. Bradley

Christine Ruane

Andrew Grant Wood

Associate Professors

Jonathan Arnold

Thomas Buoye

Brian Hosmer

Kristen Oertel

Jan Doolittle Wilson

Assistant Professor

Jeremy Kuzmarov

The history major exposes students to a range of historical issues and problems, and develops the fundamental skills necessary to the practice of the historian's craft. It allows a level of specialization that promotes an appreciation of the complexity of human affairs and the difficulties involved in their interpretation. The history major challenges the intellect, inspires the imagination, and stimulates analytical thinking. Historical knowledge provides a valuable background for students considering careers in law, journalism, library and museum work, education, business, and local, state, national, and international public service. Students of history contribute anywhere that a knowledge of domestic and foreign affairs is required, and, of course, to the profession of historical research and teaching.

Learning Objectives

- Demonstrate understanding in several areas of history;
- Demonstrate a range of critical thinking skills transferable to a wide range of careers;
- Demonstrate an appreciation of the complexity of human affairs and the difficulties involved in their interpretation; and
- Perform research and demonstrate oral and written communication skills.

Major Requirements

A minimum of 33 credit hours in history courses, excluding history courses taken to meet general curriculum requirements, is required for the Bachelor of Arts in history. No more than 39 credit hours may be credited toward that degree.

Lower Division Requirements

Three courses at the 2000 level. Of these three courses, three different fields must be represented. Majors are to select three fields from among the following:

Ancient (Mediterranean and Near East, China and Japan, the Americas)

Modern World (China and Japan, the Americas, Piratica)

U.S. (U.S., Native America, U.S. and the World)

Europe and Russia (Medieval and Modern)

Upper Division Requirements

HIST 3903, History Colloquium (This course must be taken directly after declaring the history major.)

Seven courses at the 3000- and 4000-level. Of these seven courses, at least three different fields must be represented. Majors are to select three fields from among the following:

Greece and Rome
China and Japan
Europe and Russia
U.S.

The Americas

plus

One 4000-level seminar

Minor in History

A minor in history is available. Twelve credit hours must be completed in history with six hours at the 3000 level or higher.

Combined Bachelor of Arts/Master of Arts Program

The combined Bachelor of Arts/Master of Arts program enables highly motivated students to earn a bachelor's and a master's degree in five years. The combined program requires the same number of credits and level of work as the current Bachelor of Arts and Master of Arts (thesis option) degree programs. As a result only students who enter TU with an IB diploma or at least 24 hours of AP credit can reasonably be expected to complete both degrees in five years. All students admitted to the combined B.A./M.A. program will write a master's thesis as part of their program of study.

With instructor's permission, undergraduate students enrolled in the B.A./M.A. program may take 5000 level courses listed below.

The typical student will apply for admission to the combined program in his or her junior year. (For more information, see the *Graduate Bulletin*.) Students interested in the combined B.A./M.A. should contact the graduate advisor or any faculty member of the Department of History to find out more about the program.

History (HIST)

2053 (3 hours) Block 2

European Women's History

Introduction to European women's history from the 18th century to the present. Emphasis on how the important political, social, economic, and cultural events of European history shaped women's lives. Same as WS 2053.

2133 (3 hours)

Images of the American West

The American West as envisioned and understood across a range of interpretations and iconographies, primarily in literature and historical narrative, but also in film, painting, and other forms of cultural representation. Various mythologizings of "the West" as defined over time, and the persistence of such mythologies in the present. Same as ENGL 2133.

2213 (3 hours) Block 2

Latin America

Introduction to Latin American history from pre-Columbian to modern times. Emphasis on the encounter of various peoples in the New World; colonial societies and institutions; emergence of new republics; neocolonialism, global integration, and industrialization; religious practices; revolutionary movements; race and gender relations; and Latin American-U.S. diplomacy.

2243 (3 hours) Block 2

Social Revolutions in Latin America

What is a social revolution? Who, why and under what historical conditions are such measures undertaken? This course examines several revolutionary case studies in Latin America during the 20th century. Careful attention is paid to events in Mexico, Cuba and Nicaragua as well as to repressive regimes in Guatemala, Brazil, Argentina and Chile.

2283 (3 hours) Block 2

History of Ancient America

A survey of the development of pre-Columbian cultures in North, Central, and South America from the earliest migrations across the Bering Straits to the florescence of the Maya, Inca, and Aztec empires on the eve of European contact.

2313 (3 hours) Block 2

Ancient World

The Near East, Greece, and Rome in antiquity; emphasis on the cultural, intellectual, social, and political achievements of these early civilizations.

2363 (3 hours) Block 2

Medieval World

The origins and development of Mediterranean and European nations from the fall of the Roman Empire to the Reformation, with emphasis on topics such as the rise of the medieval church, the birth of Islam, the Crusades, the crisis of church and state, and the nature of feudal politics and economics.

2383 (3 hours) Block 2

American Environmental History

An introduction to the basic issues and sources for understanding the history of the interaction of humans with natural environments of North America from pre-contact times through the twentieth century. Topics include Native American uses and views of the natural world, resource use from colonial times to the present, the ecological effects of industry and commerce, and ideas about the environment from conservationist and preservationist movements to environmental movements.

2403 (3 hours) Block 2

Modern Europe

Introduction to major issues and events that have shaped western Europe in the modern era, with emphasis on political ideologies, economic developments, diplomatic relations, and social movements.

2413 (3 hours) Block 2

Pirates and Piracy in the Atlantic World

Pirates and piracy as a way to approach the larger history of the Atlantic World political economy ca. 1500-1800. Particular attention is paid to Elizabethan England as English pirates challenge Spain's power and also engage in the trafficking of African slaves.

2453 (3 hours) Block 2

Music and Society in the Americas through Film

Introduction to the cultural history of modern music in the Americas. Explores the context of several American music genres including Blues,

Jazz, Tango, Broadway, Caribbean styles, Country Tejano/Conjunto, Rock and Roll, Reggae and Hip Hop. Emphasis on understanding cross-cultural influences, interpreting musical commentary on gender, community, commercial and political trends in the larger historical development of music in the Americas. Same as FLM/MUS 2453.

2473 (3 hours) Block 2**American Social Movements**

Looks at the social upheavals gripping American society through the 20th century, with a focus on progressive and radical social movements that challenged the governing consensus. Examines the rise of socialist and labor movements in the United States, civil rights, feminism, environmentalism and pacifist and anti-imperialist movements and their interconnectedness, ending with contemporary social movements.

2503 (3 hours) Block 2**American Republic**

Thematic approach to U.S. history since 1789 organized around the concepts of nation-building, industrialization, expansion, and the republic in the nuclear age.

2523 (3 hours) Block 2**History of Oklahoma**

Oklahoma from prehistoric times to the present with emphasis on the role of the Indian in the state's history.

2543 (3 hours) Block 2**Africans in the Americas from Slavery to Freedom**

Course charts the history of the African diaspora to the Americas by examining the slave trade in Africa, the Middle Passage to the Americas, slavery in the American colonies including the Caribbean and Brazil, and finally, resistance and emancipation, focusing on the United States.

2553 (3 hours) Block 2**War and American Society**

The social, economic, and political impact of war in American history discussed within the context of the evolution of warfare in western civilization.

2573 (3 hours) Block 2**Indians in American History**

The Native American experience in North America from 1400-present, with emphasis on the peoples and cultures who came to Oklahoma, an adopted homeland.

2583 (3 hours) Block 2**Africans in America: From Reconstruction to the Civil Rights Movement**

Analyzes the history of African Americans' struggle for civil rights in the United States from roughly the end of the Civil War to the 1970s. It examines the issues and events that defined movements for civil rights, analyzes the role of leaders, organizations, grassroots workers, and "ordinary" people in shaping and propelling these movements, and assesses the tools, strategies and tactics used to fight oppression.

2603 (3 hours) Block 2**Russia and the West**

Survey of Russian history and culture with emphasis on the historical origins of the differences between Russia and the West and Russia's response to western influence.

2613 (3 hours) Block 2**China and Japan from Antiquity to 1800**

Introduction to the politics and culture of traditional China and Japan, focusing on the interaction between state and society, the influence of secular and religious philosophies on the elite and the masses, and relations between China and Japan.

2623 (3 hours) Block 2**China and Japan since 1800**

Examines important political, social, and cultural issues in China and Japan in the 19th and 20th centuries. Emphasizes the legacy of tradition, growth of nationalism, revolution in theory and practice, development of modern culture, and relations with the West.

2663 (3 hours) Block 2**Russia Today**

Review of the Soviet Union under Gorbachev and highlights of the rapid change in politics, economics, and culture of its major successor state, Russia. Same as POL 2663.

2713 (3 hours)**Capitalism and Socialism**

The historical evolution of the ideologies and cultures of capitalism and socialism, with emphasis on property, the market, organizations of work, the state, the family, and the arts. Readings, class discussion, and writing assignments cover key controversial issues concerning people in society.

2733 (3 hours) Block 2**Colonialism and Imperialism**

European expansion and interaction with the non-European world from the Age of Discovery through decolonization.

3023 (3 hours)**Modern America and American Indians**

Lecture/discussion class that focuses on the history of American Indian people in North America (north of Mexico) since 1900. Explores the resurgence of tribal nationhood, economic, social, and cultural challenges, and the twists and turns of U.S. and Canadian Indian policies. Also emphasizes the intertwined histories and destinies of American Indians and non-Native Americans. Prerequisites: HIST 2573 and ANTH 3103.

3003 (3 hours)**History of Canada**

Course explores a wide range of subjects including early contact between Native Americans and European travelers, comparative analysis of French and English colonization, war, economic development, social life and national culture. Regular comparison with the histories of the U.S. and Spanish America.

3233 (3 hours)**Chinese History Through Film**

Representations of political and social history of modern China in recent Chinese films, including changing gender roles, the exploitation of women, conflict between tradition and modernization with emphasis on family structure, the role of the Communist Party in the Chinese Revolution, and the relation of the people to the state. Same as FLM 3233.

3273 (3 hours)**History of Women in the United States to 1900**

Emphasis on women's legal, social, and economic status within the realms of family, work, and community and the impact of feminism, slavery, science, and immigration, on women's lives. Same as WS 3273.

3283 (3 hours)**History of Women in the United States since 1900**

Emphasis on women's legal, social, and economic status within the realms of family, work, and community and the impact of feminism, race, science, and immigration on women's lives. Same as WS 3283.

3323 (3 hours)**Politics and History in Soviet Film**

Overriding theme will be how Soviet films not only represented politics at different stages in the 20th century but also created a usable history. Structure of the course will vary from a broad survey of Soviet film to special topics such as World War II. Same as FLM 3323.

3363 (3 hours)**History of Latin America through Film**

An examination of selected episodes and themes in the history of Latin America/the Americas through film, focusing on European exploration, colonization, slavery, evangelization, economic development, social revolution, civil war, the drug trade, migration and transnational issues. Same as FLM 3363.

3403 (3 hours)**Crime and Punishment in American History**

The intersection between crime control and politics, the history of prisons and police, conservative law and order policies, the War on Drugs and the growth of the "penal industrial complex," and efforts to export criminal justice reforms prevalent in the United States. Same as SOC 3403.

3463 (3 hours)**19th-Century Europe**

The "long 19th century," from the French Revolution to World War I. Themes include the influence of ideologies; the rise of the bourgeoisie and the industrial proletariat; class relations; the creation of new nation-states;

diplomatic relations between states; and artistic, literary, and philosophical movements.

3473 (3 hours)

20th-Century Europe

The major political, social, cultural and intellectual currents of Europe in the 20th century. Emphasis on liberal democracy and challenges to it from fascism and communism.

3503 (3 hours)

The Middle Ages on Film

A thematic examination of the Middle Ages as portrayed in film. Modern interpretations and representations will be juxtaposed with readings from original sources and scholarships. Same as FLM 3503.

3513 (3 hours)

Colonial America

This course is a social and cultural exploration of the colonial regions in North America (the Chesapeake, New England, the Carolinas and Louisiana) where Europeans, Indians, and Africans created multiethnic societies and economies that would become the United States of America.

3523 (3 hours)

Revolutionary America, 1750-1800

This course explores the causes and events of the American Revolution, but this is not a survey of the political and military battles that characterized that era. Instead, it is an intellectual history of the ideological tensions at the center of the revolutionary era: Who has the right to rule? How do “the people” rule in a democratic manner? And perhaps most importantly, who are “the people”?

3533 (3 hours)

Jeffersonian and Jacksonian America, 1800-1850

Detailed interpretive examination of the period from Jefferson’s election to the Compromise of 1850.

3543 (3 hours)

The Civil War

This course deconstructs the mythology of the Civil War and interprets the effects of the war using tools of historical inquiry like social and cultural history, gender theory, and theories about racial information in the United States. This will not be a military or political history of the Civil War, but rather, we will examine the

social and cultural changes that the war exacted from the American populace.

3553 (3 hours)

Rise of Industrial America, 1865-1901

Political, economic, social, and intellectual changes from which modern America emerged, with emphasis on the impact of industrialization.

3563 (3 hours)

New Deal to New Frontier: Mid-20th-Century America

American society during the New Deal, World War II, and post-World War II era at home and in world affairs.

3573 (3 hours)

Recent American History, 1960 to Present

American history from John F. Kennedy to the present including both domestic and foreign affairs.

3643 (3 hours)

Italian Renaissance Art: 1300-1480

Explores the development of art and architecture produced in Italy from 1300 to 1480. Examines works of art, architecture, and material culture within their broader social and historical context in an effort to better understand the works and the people who made and viewed them. Prerequisites: ARTH 2023 or ARTH 2223 or permission of instructor. Same as ARTH 3643.

3653 (3 hours)

History and Literature

The relationship between literary texts and their historical contexts, organized around a specific historical period, geographical area, or theme. Same as ENGL 3703.

3663 (3 hours)

Reform and Revolution in Modern China

Successes and failures of revolutionary and gradualist changes in Chinese politics, society, and culture from the mid-19th century to the present, and how these changes affected both urban and rural China. Explored themes include nationalism, socialism, individualism, democracy, scientism, and feminism.

3683 (3 hours)

Modern Japan, 1800 to Present

Political, social, cultural, and economic changes in Japan from the last years of the Tokugawa

shogunate to the present, from the perspectives of power-holders and dissidents, elite, and masses.

3733 (3 hours)

History of Popular Culture in the Americas

Seminar using selected popular cultural subjects (such as religion, food, sports, visual arts, architecture, literature, travel writings and music) to study American (meaning “the Americas” and not just the United States) society from the mid to late 19th century to the present.

3753 (3 hours)

Modern Africa

Introduction to major political and social issues facing sub-Saharan Africa since the height of European colonialism.

3783 (3 hours)

Greece and Rome in Film

A thematic examination of the ancient civilizations of Greece and Rome as portrayed in film. Modern interpretations and representations will be juxtaposed with readings from original sources and scholarship. Same as FLM 3783.

3813 (3 hours)

The Rise and Fall of the Roman Empire

Thematic course tracing the rise, fall, and legacy of the Roman Empire. Topics include the end of the Republic, early emperors, Romanization, early Christianity and Christianization, and the coming of the barbarians.

3843 (3 hours)

Seeing through Clothes

Focusing on Europe and America, this course will analyze topics such as changing views of the human body, the impact of industrialization on clothing production, the invention of fashion and the democratization of them.

3903 (3 hours)

History Colloquium

Examination of an event of broad historical significance while learning research skills and historical methodology. Topic studied varies with the instructor. Normally taken in the junior year.

3973 (3 hours)

Undergraduate Seminar

Various topics.

4033 (3 hours)

Seminar in the History of Political Thought

Seminar on a single author, the political thought of a particular time and place, or a theme or school of thought. For seniors majoring in history, political science, or philosophy, or pursuing a certificate in political philosophy. Open to underclass students who are exceptionally able or well-prepared. Same as POL 4033, PHIL 4003.

4263 (3 hours)

Men and Women at War: A History of Europe in the 20th Century

Explore how gender norms changed over the course of the twentieth century in Europe and how this conflict impacted European history. Same as WS 4143.

4283 (3 hours)

American Indian Ethnohistory

A reading class design to expose students to the varied methods and interpretations current in American Indian history. “Ethnohistory” refers to an interdisciplinary “meeting place” between history and anthropology, and an approach that seeks to understand American Indian historical experiences by focusing on multiple historical and cultural perspectives. The class is organized topically, and students will be expected to offer in class presentations and write short and long papers based upon readings.

4293 (3 hours)

History of the North American West

Reading seminar on the history of the North American West. Course seeks to move beyond older conceptualizations of the region and its history by focusing on issues as diverse as place and process, community and conflict, migration and ethnicity, resource development, and environment. Course will ask students to engage history and historiography as we consider the West as place and cultural phenomenon. Prerequisite: Junior or senior standing.

4413 (3 hours)

Emergence of Modern Russia

Russia from ancient times to 1825, with emphasis on the Kievan and Muscovite states,

the building of the Russian empire, Peter the Great, peasant life and serfdom, early rebellions against autocracy.

4423 (3 hours)

Russia: Reform and Revolution

Russia from 1825-1917, with emphasis on the processes of repression, reform, and revolution. Topics include the Russian intelligentsia, the Great Reforms, populism and terrorism, industrialization, and the revolutions of 1905 and 1917.

4443 (3 hours)

Soviet Russia

The Soviet Union from 1917-1991, with emphasis on the evolution of state and society. Topics include the Revolution and Civil War, New Economic Policy, the Stalin Revolution, art and culture under dictatorship, the Khrushchev reforms, the Brezhnev era, and the Gorbachev years.

4453 (3 hours)

Hegel, Marx, and Nietzsche

The development of 19th-century German philosophy, including the problem of the nature and significance of history. Emphasis on Hegel, Marx, and Nietzsche, with additional readings from the works of Fichte, Feuerbach, and Schopenhauer. Prerequisite: One course in philosophy or related area with permission of instructor. Same as PHIL 4453.

4573 (3 hours)

American Diplomatic History since 1914

American foreign relations from the rise of Woodrow Wilson in 1914 to the present.

4683 (3 hours)

Big Money Politics in American History

The 2011 Occupy Wall Street movement brought to public attention how Wall Street financiers and large corporations have corrupted the American political system. This course will look historically at how big money has influenced American politics. A major question we will consider is whether capitalism is compatible with democracy.

4693 (3 hours)

A Cultural History of Inter-American Relations

Considers the history of inter-American relations from a predominantly cultural viewpoint. Food, literature, sport, music,

architecture, religion, and other cultural aspects of daily life in the Americas are critically examined.

4713 (3 hours)

America at War in the 20th Century

The evolution of American military policies during the 20th century. Strategies and tactics used to implement these policies studied through analysis of American participants in the following wars: Spanish American, World War I, World War II, Korea, and Vietnam. Emphasis on the interrelationships among military, foreign, and domestic issues.

4803 (3 hours)

Topics in Greek History

Discussion course focused on a narrowly defined historical period, theme, or set of problems. Emphasis on the analysis of ancient evidence and on the various scholarly controversies to which it gives rise.

4813 (3 hours)

Topics in Roman History

Seminar on selected topics and problems in Roman history; emphasis on the various narrative and epigraphic sources (in translation) and how to use them, and on current scholarship.

4833 (3 hours)

Topics in Latin American History

Seminar aimed at a close consideration of a selected topic in Latin America history.

4843 (3 hours)

Topics in European History

Seminar on a specific historical period, theme, or set of problems in European history. Close readings of texts with emphasis on the analysis of sources and the modern scholarly controversies to which they give rise.

4853 (3 hours)

Topics in American History

Seminar on a specific historical period, theme, or set of problems in American history. Emphasis on critical analysis of historical works and on modern scholarly controversies.

4863 (3 hours)

Topics in East Asian History

Seminar focused on a particular time period, country, and/or set of problems in Asian history. The course will emphasize critical

analysis of historical works, literature, films, and archival documents and the modern scholarly controversies to which they give rise.

4873 (3 hours)

Topics in Medieval History

Seminar on a specific period, theme, or set of problems In the history of medieval Western

Europe, Byzantium, and/or Islam. Emphasis on source analysis and modern scholarly debate.

4973 (3 hours)

Undergraduate Seminar

4991, 4992, 4993 (1-3 hours)

Independent Study

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5313 (3 hours)

Readings in the History of the Ancient World and Europe to 1700

5323 (3 hours)

Research in the History of the Ancient World and Europe to 1700

5413 (3 hours)

Readings in the History of Europe since 1700

5423 (3 hours)

Research in the History of Europe since 1700

5513 (3 hours)

Readings in the History of the United States

5523 (3 hours)

Research in the History of the United States

5713 (3 hours)

Readings in Comparative Social and Cultural History

5723 (3 hours)

Research in Comparative Social and Cultural History

Languages

Chair

David Tingey

Professors

Christopher Anderson, Spanish

Bruce Dean Willis, Spanish

Associate Professors

Eduardo Faingold, Spanish

Lydie Meunier, French

Karl Pollin, French

David Tingey, German

Victor Udwin, German

Assistant Professors

Stephanie Schmidt, Spanish

Huiwen Zhang, Chinese

Applied Instructors

Marta Chamorro, Spanish

Véronique Conway, French

Tania Garmy, Spanish

Rosana Khan, Portuguese and Spanish

Elsa Plumlee, Spanish

Karen Rubio, Spanish

Applied Associate Professor

Elena Doshlygina, Russian

Students who fulfill the requirements for a major in the Department of Languages acquire greater awareness of and appreciation for other cultures; develop proficiency in a target language and a basic understanding of its linguistic structure; gain a deeper understanding of textual analysis and literary genres, styles, and periods; engage with current scholarship; and prepare themselves to participate in a global society. Majoring in a language provides students with a strong pre-professional background for graduate studies in the arts and humanities as well as for careers in business, teaching, and government.

The first and second-year language courses offered by the Department of Languages are designed to help students throughout the University develop intermediate-level proficiency in a second language, as specified in the American Council on the Teaching of Foreign Languages (ACTFL) guidelines. Students enrolled in these courses likewise gain insights into other cultures.

Placement in Language Courses

Prior to coming to campus to enroll, incoming students with previous classroom or life experience in Chinese, French, German, or Spanish who intend to continue studying the same language must take its placement exam. This policy also applies to native speakers of a Romance language who intend to take courses either in their native tongue or in another language taught by the department. The placement examination does not grant academic credit, nor can it be used to test out of the language proficiency requirement.

Delayed Proficiency Credit

By petitioning the Department of Languages, students who begin their language study in a course above the level of first semester and complete it with a grade of C or higher receive credit for the previous course as well, up to and including fourth semester. Such credit may not exceed four hours. Students with previous college, AP, or IB credit in a

language are not eligible for delayed proficiency credit in that language, nor are native speakers who choose to study their native language. Delayed proficiency credit is awarded toward the completion of a College's language proficiency requirement, but it is not granted if the language is being taken as an elective.

Beginning and Intermediate Language Courses

Students whose College requirements or personal goals include one or two years of language study may select from Chinese, French, German, ancient Greek, Hebrew, Latin, Portuguese, Russian, and Spanish. The first course in each language sequence has no prerequisite and assumes no prior knowledge of the language. Each subsequent course in the beginning and intermediate sequences has as its prerequisite a grade of C or higher in the previous course or its equivalent, or departmental approval through placement. Students who elect to repeat a 1000- or 2000-level language course for a higher grade may do so only in the most advanced course they have taken in the sequence, and they may not take language courses out of sequence.

Study Abroad

As a significant component for the college experience, every language student is encouraged to participate in a study abroad program to acquire cultural literacy and fluency in a foreign language. For more details on TU's programs abroad, contact the Center for Global Education (CGE) at 918-631-3229 or visit www.utulsa.edu/globaleducation.

Related Studies

Courses in comparative literature are taught in English and have no prerequisites. These draw from various traditions and time periods and provide strategies for relating literature to such areas as psychology, philosophy, politics, cinema, and the literatures of other cultures. The faculty of the Department of Languages also offers a variety of courses in areas such as linguistics, classics, film studies, and women's and gender studies. Many of these are taught in English and are appropriate for students in a wide range of fields.

Language Majors

Major programs are offered in Chinese studies, French, German, Russian studies, and Spanish. The curriculum of a language major provides a wide range of experiences inside and outside the classroom. Many students combine their language major with a concentration in an additional field. Such a concentration may be a minor, a certificate program, or a second major. Prospective language teachers complete the major in Chinese studies, French, German, Russian studies, or Spanish, along with the licensure and certification requirements for grades K-12 as determined by the School of Urban Education (see page 128).

Learning Objectives

Learning objectives at all levels of languages programs are met through students' demonstration of the following:

- Language skills (reading, listening, speaking, and writing) that aid in communication and understanding among persons and groups of different linguistic and cultural backgrounds;
- Critical thinking and creative insights in the disciplined study of cultural media (such as literature and film) and linguistics;
- Fluency and coherence when presenting ideas in writing and in speech.

Bachelor of Science in International Business and Language

Career goals that include both language and business may be realized through the Bachelor of Science in International Business and Language (B.S.I.B.L.) degree offered through the Collins College of Business and described beginning on page 283. This single major combines specialized training in international business with the Chinese studies, French, German, Russian studies, or Spanish major curriculum.

Chinese Studies Major

The Chinese Studies major is an interdisciplinary program drawing from the disciplines of political science, history, literature and language, business, and economics to prepare students for a variety of professional careers and academic programs related to China. See requirements on page 105.

Bachelor of Arts in French

French majors complete 30 hours at the 3000 and 4000 levels, with a minimum of 15 hours at the 4000 level. The 30 hours include Advanced French (FR 3023), Approaches to the Analysis of French Texts (FR 3033), and a minimum of 6 hours in literary and cultural studies (FR 4113, 4123, and/or 4143). French education majors are required to take Methods of Teaching Languages (LANG 4003). At least 24 of the 30 hours must be taken in courses taught in French. Up to six hours, including LANG 4003, may be taken in related courses designated LANG (language) or CPLT (comparative literature), with prior approval of the major advisor. Other appropriate courses may be approved by special permission of the major advisor and department chair.

Bachelor of Arts in German

German majors complete 30 hours at the 3000 and 4000 levels, with a minimum of 15 hours at the 4000 level. Three hours may be taken in German area studies courses offered by other departments (e.g., history, philosophy, music, art history, theatre, political science, English, or anthropology) or LANG 4003, Methods of Teaching Languages. Such courses must be approved in advance by the major advisor. In addition, majors fulfill a culture requirement by completing a course approved by their German major advisor. German education majors take Methods of Teaching Languages (LANG 4003).

Bachelor of Arts in Russian Studies

The Russian studies major is an interdisciplinary program in Russian language, literature and culture, history, and politics. The major provides students with the knowledge of historical and contemporary Russia, as well as with the ability to use the Russian language. See requirements on page 226.

Bachelor of Arts in Spanish

Spanish majors complete 30 hours at the 3000 and 4000 levels, with a minimum of 15 hours at the 4000 level. The 30 hours include Composition in Spanish (SPAN 3003), Explication of Hispanic Literary Texts (SPAN 3033), and Introduction to Spanish Linguistics (SPAN 3123). In addition, majors fulfill a culture requirement by completing The Culture of Spain (SPAN 3013), Latin American Cultures (SPAN 3023), or Spanish Film (SPAN 3333), by completing the equivalent of one of these courses during a study abroad experience, or by enrolling in an approved “Language Intensive” class offered outside of the Department of Languages in which a significant portion of the coursework is completed in Spanish. Although students who choose the “Language Intensive” option fulfill the culture requirement, the course itself does not count toward the major. Spanish education majors take Methods of Teaching Languages (LANG 4003) as part of their major, or Spanish majors may take LANG 4003 in place of a 3000-level elective course.

Language Minors

Students may minor in classics, or a language (Chinese, French, German, ancient Greek, Latin, Russian, or Spanish), with the approval of the major department. A minor in Chinese, French, German, ancient Greek, Latin, or Russian consists of a total of 12 hours at the 3000 and 4000 levels. LANG 4003 does not count toward the minor. The minor in Spanish consists of 15 credits at the 3000-level and above, including at least one course at the 4000 level.

Minor in Linguistics

The linguistics minor is interdisciplinary by design and utilizes expertise in disciplines of languages, linguistics, education, anthropology, and speech pathology. It provides students with knowledge and understanding of contemporary topics and problems in linguistics in areas such as Indo-European, non-Indo-European, and classical languages, diachronic and synchronic linguistics, and anthropological, sociological, applied and theoretical linguistics.

To pursue a minor in linguistics, students must complete 15 hours including an introductory linguistics class as well as 6 hours of linguistic electives at the 3000 level and 6 hours at the 4000 level. All courses must be approved by the linguistics advisor.

Student-designed Areas of Concentration

Students may design a Bachelor of Arts in classics or linguistics. For information on student-designed areas of concentration, see page 78.

Chinese (CHIN)

1004 (4 hours)

Beginning Chinese I

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication.

Prerequisite: No previous training or experience in Chinese. All students with previous training or experience in Chinese, including native speakers, must consult the Department of Languages for placement advice.

1014 (4 hours)

Beginning Chinese II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication.

Prerequisite: CHIN 1004 with a grade of C or higher, or permission of instructor. All students with previous training or experience in Chinese, including native speakers, must consult the Department of Languages for placement advice.

2003 (3 hours)

Intermediate Chinese I

Emphasis on increasing learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as aid to communication. Prerequisite: CHIN 1014 with a grade of C or higher, or permission of instructor. All students with previous training or experience in Chinese, including native speakers, must consult the Department of Languages for placement advice.

2013 (3 hours)

Intermediate Chinese II

Emphasis on increasing learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in CHIN 2003 or its equivalent. All students with previous training or experience in Chinese, including native speakers, must

consult the Department of Languages for placement advice.

3003 (3 hours)

Advanced Chinese I

Development of skills in oral comprehension, speaking, reading, and writing. Strategies for functioning in situations at a level appropriate to advanced learners. Continued consolidation of character recognition and production, and pronunciation. Prerequisite: CHIN 2013 or its equivalent, departmental approval through placement, or permission of instructor.

3013 (3 hours)

Advanced Chinese II

Continued development of skills in oral comprehension, speaking, reading, writing and establishment of a solid base for more advanced language learning. Focus on speaking and writing in coherent and well-formed paragraphs. Prerequisite: CHIN 3003 or its equivalent, departmental approval through placement, or permission of instructor.

3113 (3 hours)

Chinese Through Literature I

By exploring shorter original Chinese masterpieces that exemplify linguistic complexity, intellectual stimuli, and cultural characteristics, we will immerse ourselves in the authentic beauty of modern Chinese and expose ourselves to the most significant challenges for modern China (1917-1978). Content varies; may be repeated three times for credit. Prerequisite: CHIN 2013.

3133 (3 hours)

Untimely Meditations: A Chinese Perspective

Dedicated to Lu Xun, China's most profound writer, whose "untimely meditations" on modern civilization, world history, and the human condition resonate with those of Nietzsche and Kafka, and prove to be timely and timeless. Exploring his writings opens avenues of thought that revolutionize our understanding of Chinese language and culture. Prerequisites: CHIN 2013 or its equivalent and permission of instructor.

3143 (3 hours)**Modern Poetry Prose**

By exploring modern Chinese poetry and prose that exemplify linguistic complexity, intellectual stimuli, and cultural characteristics, we'll immerse ourselves in the beauty of modern Chinese. Prerequisite: CHIN 2013 or its equivalent and permission of instructor.

4123 (3 hours)**Chinese Microblogging**

Sina Weibo 新浪微博, a Chinese hybrid of Twitter and Facebook, has attracted more than 140 million registered users as of August 2011 and become a gigantically influential voice in China. This course will motivate students to improve their mastery of Chinese through reading and discussing aesthetically, ethically,

socially, and politically subversive Chinese microblogs.

4143 (3 hours)**Contemplative Cinema: The Chinese Contribution**

A spectrum of films from Mainland China that address issues such as the tension between family and society, the vacillation between nostalgia and anticipation, and the concurrency of evolution and degradation. Examining each film's leitmotifs and strategies of representation and argumentation will help improve Chinese skills in all aspects. Prerequisites: CHIN 2013 or its equivalent and permission of instructor.

4993 (3 hours)**Independent Study****Comparative Literature (CPLT)****2043 (3 hours) Block 1****American Culture on Film**

Popular film and fiction communicate perspectives essential to the functioning of contemporary culture. Students gain the analytical vocabulary with which to recognize and describe contemporary issues presented by entertainment media. Non-American films and texts give a sense of which issues are peculiar to American culture and which are shared internationally. Same as FLM 2043.

2253 (3 hours) Block 1**African Film**

Examines how African filmmakers have chosen to represent Africans, their civilizations, nations, histories and contemporary realities through films while challenging Euro-American stereotypical representation of the African continents.

2293 (3 hours) Block 1**Thinking with Science Fiction**

Course consists in developing, through SF films and novels, a clearer understanding of notions such as time, artificial life, virtual reality, and utopia, in order to better comprehend some political, scientific, philosophical and ethical problems raised at the beginning of the 21st century.

2313 (3 hours) Block 1**Gangster Films**

Explores the meaning of genre, including what the gangster topos makes available to filmmakers. Promotes awareness of the range of issues addressed by this genre. Because film presents its argument by means classified as aesthetic, analysis of gangster films enhances understanding of ways in which sense-perceptible messages influence thought, decision, and action. Same as FLM 2313.

2343 (3 hours) Block 1**The Dilemma of Modernity**

Intellectuals in Scandinavia, Germany, Japan, and China reached back to primal narratives and cultural legends to address contemporary problems at the turn of the last century. Exploring this strategy can give us insight into current global issues.

2513 (3 hours) Block 1**Colossus of the South: Brazil**

Introduction to the intersection of Brazilian literature and culture. Contextualization of key literary texts and artistic events in 20th-century Brazil such as the Modern Art Week (1922), Concrete Poetry (1950s-60s), and Tropicalia (1960s-70s). Course taught in English.

2613 (3 hours) Block 1**Argentine Culture on Film**

Through the study of film, students acquire knowledge of contemporary Argentine cultural

figures such as Juan and Eva Perón, Che Guevara, Charlie García, Flaco Spinetta, and Tanguito, and such issues as the Mother of the Plaza de Mayo, the Night of the Pencils, the Dirty War, and the Falklands/Malvinas War.

2713 (3 hours) Block 1

The Faust Myth in German Literature and Film

Examines the legacy of the Faust story in Germany, including its various adaptations since its original publication as a Volksbuch (chapbook) in 1587. Particular emphasis on the distinct historical and cultural contexts that helped give rise to each reworking of the legend.

2813 (3 hours) Block 1

The Hero's Journey: From Beowulf to Bilbo

Examines the archetypal heroic journey as a universal theme and experience in Western culture. Particular emphasis on Germanic (including English) texts, and on the mythological origins of the hero.

3023 (3 hours)

French Feminism

Existentialist and postmodern feminist philosophies within the historical and political

context of the Women's Liberation Movement (MLF) throughout 20th-century France.

Attention to writings by French feminists such as Hélène Cixous, Catherine Clément, Claire Duchen, Luce Irigaray, Julia Kristeva, Rosi Braidotti, and Simone de Beauvoir. Same as WS 3023.

3053 (3 hours)

Introduction to Literary Analysis

Introduction to the analysis and interpretation of literary texts through close reading. Students perform in English written and oral analyses of plays, novels, short stories, and poetry. Works selected to give historical and stylistic breadth are in English translation and the student's major language. Prerequisite: One 3000 or 4000-level course in student's language major (may be taken concurrently) or equivalent, or permission of instructor.

3723 (3 hours)

Masterpieces of Russian Literature

Study of major works in the Russian literary tradition. Same as ENGL 2353.

French (FR)

1004 (4 hours)

Beginning French I

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication. Prerequisite: No previous training or experience in French, or departmental approval through placement.

1014 (4 hours)

Beginning French II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in FR 1004

or its equivalent, or departmental approval through placement.

2003 (3 hours)

Intermediate French I

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Greater use of authentic materials. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in FR 1014 or its equivalent, or departmental approval through placement.

2013 (3 hours)

Intermediate French II

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Greater use of authentic materials. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in FR 2003 or its equivalent, or departmental approval through placement.

3023 (3 hours)**Advanced French**

Continuing development of French reading, writing, listening, speaking, and analytical skills to an advanced level of proficiency. Required for major. Prerequisite: Grade of C or higher in FR 1013 or its equivalent, departmental approval through placement, or permission of instructor.

3033 (3 hours)**Approaches to the Analysis of French Texts**

Analysis of genres (fiction, drama, poetry) through major works selected to give historical and stylistic breadth. Introduction to concepts of literary analysis in French. Required for majors. Prerequisite: FR 3023, or equivalent, or permission of instructor.

3403 (3 hours)**French Translation I**

The fundamental issues, options, and alternatives in translating from French into English. Comprehension and interpretation within the contexts of literal meaning, connotation, cultural awareness, language varieties, genres, and styles of both source texts and the target audience. Students are responsible for specific translation tasks. Prerequisite: Grade of C or higher in FR 1013 or equivalent, departmental approval through placement, or permission of instructor. Students educated in a language other than English should consult instructor before enrolling.

3423 (3 hours)**Business French**

Helps students of international business, technology, engineering, and other fields to read, write, and converse in French about their areas of specialty. Attention to cultural differences between the French-speaking world and the U.S. Course orientation determined each semester by needs of students enrolled. FR 3423 and 3033 may be taken concurrently. Prerequisite: FR 3023, or equivalent, departmental approval through placement, or permission of instructor.

3693 (3 hours)**Cinéma et Culture**

French film perspectives on cultural concerns: war and decolonization as they redefine French

national identity, the Americanization of French culture, and patriarchal politics and cultural subversion. Prerequisite: FR 3023 and 3033, or equivalent, departmental approval through placement, or permission of instructor. Same as FLM 3693.

3991, 3992, 3993 (1-3 hours)**Independent Study**

By arrangement with a French instructor.

Prerequisite: Permission of instructor.

4113 (3 hours)**Topics in Francophone Literary and Cultural Studies**

Exploration of Black (African/Caribbean), Maghreban/Near Eastern, European (Belgian, French, Swiss), or Canadian Francophone world. Cultural and literary accomplishments, social institutions, and ideologies of French-speaking peoples explored through texts, slides, historical documents, newspapers, advertisements, film clips, television, or radio. Course may be repeated for credit with different topics. Prerequisites: FR 3023 and FR 3033 or its equivalent, or permission of instructor.

4123 (3 hours)**Topics in Literary and Cultural Studies of France**

Exploration of the culture, political institutions, philosophy, and literature of France. Course may be repeated for credit with different topics. Prerequisites: FR 3023 and FR 3033 or their equivalents, each with a grade of C or higher, or permission of instructor.

4143 (3 hours)**Genres and Periods**

Core studies for students electing a concentration in French literary and cultural studies. Subjects offered include 19th-Century Novel, French Enlightenment, Modern French Novel, Classic French Drama, and Modern French Drama. Course may be repeated for credit with different topics. Prerequisite: FR 3023 and FR 3033 or their equivalents, each with a grade of C or higher, or permission of instructor.

4303 (3 hours)**Topics in French Language and Linguistics**

Attention to communicative issues in French. Topics may include analysis of language

structures and variations, origins of the French language and the dynamic forces of conservatism and change, and language and society. Course may be repeated for credit with different topics. Prerequisite: FR 3023 and 3033, or permission of instructor.

4403 (3 hours)

French Translation II

Continuation of FR 3403 for students wishing to enhance their translation and interpretation

skills with a view to undertaking translation work in a professional capacity. Prerequisite: A grade of C or higher in either FR 3023 or 3403 or equivalent, or permission of instructor.

4991, 4992, 4993 (1-3 hours)

Independent Study

By arrangement with a French instructor.

Prerequisite: Permission of department chair.

German (GERM)

1004 (4 hours)

Beginning German I

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication. Prerequisite: No previous training or experience in German, or departmental approval through placement.

1014 (4 hours)

Beginning German II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in GERM 1004 or its equivalent, or departmental approval through placement.

2003 (3 hours)

Intermediate German I

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Greater use of authentic materials. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in GERM 1014 or its equivalent, or departmental approval through placement.

2013 (3 hours)

Intermediate German II

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Greater use of authentic materials. Study of grammar as aid to communication.

Prerequisite: Grade of C or higher in GERM 2003 or its equivalent, or departmental approval through placement.

3003 (3 hours)

Advanced German

Continuing development of German writing, listening, and speaking skills, with a particular focus on listening comprehension of authentic materials. Prerequisite: GERM 2013 or its equivalent, departmental approval through placement, or permission of instructor.

3023 (3 hours)

German Film

History of German film, the work of individual directors, film genres, film techniques and tools of analysis, with a particular focus on film as a reflection of or reaction to the socioeconomic conditions, cultural norms, and predominant values of the era in which it is set or produced. Prerequisite: GERM 2013 or equivalent, departmental approval through placement, or permission of instructor. Same as FLM 3423.

3053 (3 hours)

Introduction to Critical Reading

Training in strategies of critical reading. Students develop skills required to analyze written texts in a variety of literary and non-literary genres and to recognize the role texts play in the history of a culture's transformations. Prerequisite: GERM 2013 or permission of instructor.

3173 (3 hours)

Masterpieces of German Literature I

Close reading and analysis of literature (plays, poems, opera libretti, novellas, novels, essays, letters, etc.) from the Reformation through the Romantic period. Emphasis on close textual

analysis, critical thinking, and continuing development of writing and reading skills. Prerequisite: GERM 2013 or equivalent, departmental approval through placement, or permission of instructor.

3183 (3 hours)

Masterpieces of German Literature II

Close reading and analysis of literature (plays, poems, opera libretti, novellas, novels, essays, letters, etc.) from Realism to the present. Emphasis on close textual analysis, critical thinking, and continuing development of writing and reading skills. Prerequisite: GERM 2013 or equivalent, departmental approval through placement, or permission of instructor.

3213 (3 hours)

Genre

In-depth examination of a single literary genre, with emphasis on the 18th-20th centuries. Topics include drama, poetry, fairy tales, the novella, the novel, autobiography, and children's literature. Prerequisite: GERM 2013 or equivalent, departmental approval through placement, or permission of instructor.

3993 (3 hours)

Independent Study

By arrangement with a German instructor. Prerequisite: Permission of instructor.

4313 (3 hours)

History of the German Language

The principal developmental stages of the German language from its oldest known forms, through medieval German, to the

regularization of the language after Luther. Internal linguistic analysis is connected with appropriate understanding of the external cultural and historical context of the German-speaking world. Prerequisite or corequisite: One 3000-level German course or permission of instructor.

4413 (3 hours)

Individual Authors

Intensive reading of literary works of up to three authors, including Lessing, LaRoche, Goethe, Schiller, Wolf, Seghers, Kleist, Bettina von Arnim, Büchner, Keller, Fontane, Thomas Mann, Kafka, Brecht, Böll, Bachmann, Grass, Enzensberger, and Christa Wolf. Course may be repeated for credit with different topics. Prerequisite or corequisite: One 3000-level German course or permission of instructor.

4513 (3 hours)

Special Topics

Exploration of a particular historical or literary period, a place, a population, or a literary theme. Topics include medieval courtly society, romanticism, the 1848 revolution, the Weimar era, postwar Germany, turn-of-the-century Vienna, Jewish writing and thought, poetry and history, childhood and boarding schools. Course may be repeated for credit with different topics. Prerequisite or corequisite: One 3000-level German course or permission of instructor.

4991, 4992, 4993 (1-3 hours)

Independent Study

By arrangement with a German instructor. Prerequisite: Permission of instructor.

Greek (GRK)

1004 (4 hours)

Beginning Greek I

Introduction to the forms and usage of elementary grammar of ancient Greek.

1014 (4 hours)

Beginning Greek II

Continuation of the forms and usage of elementary grammar of ancient Greek. Prerequisite: GRK 1004 with a grade of C or higher.

2003 (3 hours)

Intermediate Greek I

Completion of elementary grammar of ancient Greek and reading of selections from texts in Greek. Prerequisite: GRK 1014 or permission of instructor.

2013 (3 hours)

Intermediate Greek II

Reading in Greek of a text such as a dialogue of Plato or a Greek tragedy. Prerequisite: GRK 2003 or permission of instructor.

3013 (3 hours)

Attic Prose

Reading in one author: Xenophon, Plato, or Herodotus. Prerequisite: GRK 2014 or permission of instructor.

3103 (3 hours)

Homer

Readings from the Iliad and Odyssey. Prerequisite: GRK 2014 or permission of instructor.

3203 (3 hours)

Tragedy

Complete reading of one tragedy. Prerequisite: GRK 2014 or permission of instructor.

Hebrew (HEBR)

1004 (4 hours)

Beginning Hebrew I

Acquisition of basic communicative competence, involving listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Prerequisite: No previous training or experience in Hebrew, or departmental approval through placement.

1014 (4 hours)

Beginning Hebrew II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situation at a level appropriate to novice learners. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in HEBR 1004 or its equivalent, or departmental approval through placement.

2003 (3 hours)

Intermediate Hebrew I

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in HEBR 1014 or its equivalent, or departmental approval through placement.

2013 (3 hours)

Intermediate Hebrew II

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in HEBR 2003 or its equivalent, or departmental approval through placement.

Language (LANG)

2023 (3 hours) Block 2

Foundations of Linguistics

Basic linguistic concepts and analysis are introduced, including phonetics, phonology, morphology, syntax, and historical linguistics. Emphasis on use of linguistic theories and methods of analysis in describing human cognition, culture, and the social order. Same as ANTH 2023, ENGL 2293.

2213 (3 hours) Block 2

Language, Gender, and Society

Examination of the social construction of gender and of how it reflects on male-female communicative styles. Understanding of gender-related patterns in language, speech, and nonverbal communication as a basis for analyzing communicative settings, both private and public. Same as WS 2213.

2991, 2992, 2993 (1-3 hours)

Independent Study

By arrangement with instructor. Prerequisite: Permission of instructor.

3011 (1 hour)

Service Learning Project

Participation in a guided service learning project. Amount and type of written and/or oral documentation in Spanish to be determined based on project specificity.

4003 (3 hours)

Methods of Teaching Languages

Theory and practice of teaching second languages. Focus on Communicative Language

Teaching in grades K-12. Course is also appropriate for prospective teachers of English as a second language. Required for teacher licensure/certification in foreign languages. Prerequisite: Sufficient proficiency in the target language to teach practice lessons.

4313 (3 hours)

Special Topics in Linguistics

A particular topic in an area such as language teaching methodology, linguistics, sociology of language, or semiotics. Course may be repeated for credit with different topics. May count toward major in French, German, or Spanish with permission of Department. Prerequisite: Varies according to topic and language area.

4373 (3 hours)

Linguistic Analysis

Overview of the nature of linguistic theories and analysis. Phonological, morphological, and syntactic analysis of selected linguistic data using a variety of languages and theories. Prerequisite: ANTH/LANG 2023, ENGL 2293, or SPAN 3123.

4973 (3 hours)

Senior Project

Language majors investigate a topic in areas of literature, linguistics, or culture and prepare a research paper under faculty guidance. The research process includes the selection of a topic, presentation of a weekly progress report, preparation of a bibliography, outline, leading towards a final paper.

Latin (LAT)

1004 (4 hours)

Beginning Latin I

Acquisition of basic competence in reading and writing. Study of grammar as aid to reading and writing. Students with previous training but no college credit in Latin must consult the Department of Languages for placement advice.

1014 (4 hours)

Beginning Latin II

Acquisition of basic competence in reading and writing. Study of grammar as aid to reading and writing. Prerequisite: Grade of C or higher in

LAT 1004 or its equivalent. Students with previous training but no college credit in Latin must consult the Department of Languages for placement advice.

2003 (3 hours)

Intermediate Latin I

Emphasis on reading Classical Latin poetry and prose. Prerequisite: Grade of C or higher in LAT 1014 or its equivalent. Students with previous training but no college credit in Latin must consult the Department of Languages for placement advice.

2013 (3 hours)**Intermediate Latin II**

Emphasis on reading Classical Latin poetry and prose. Prerequisite: Grade of C or higher in LAT 2003 or its equivalent. Students with previous training but no college credit in Latin must consult the Department of Languages for placement advice.

3023 (3 hours)**Advanced Latin Texts I**

Readings from Latin authors of all periods, but primarily from the classical era. Course may be repeated for credit with different topics.

Prerequisite: LAT 2013 or equivalent, or permission of instructor.

3033 (3 hours)**Advanced Latin Texts II**

Readings from Latin authors of all periods, but primarily from the classical era. Course may be

repeated for credit with different topics.

Prerequisite: LAT 2013 or equivalent, or permission of instructor.

3683 (3 hours)**Advanced Latin Grammar and Composition**

An intensive review of Latin grammar with practice in translation from English into Latin.

Prerequisite: LAT 2013 or equivalent, or permission of instructor.

3993 (3 hours)**Independent Study****4991, 4992, 4993 (1-3 hours)****Independent Study**

By arrangement with a Latin instructor.

Prerequisite: Completion of six hours of upper division coursework in Latin.

Portuguese (PORT)

1004 (4 hours)**Beginning Portuguese I**

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level of appropriate to novice learners. Prerequisite: No previous training or experience in Portuguese, or departmental approval through placement.

1014 (4 hours)**Beginning Portuguese II**

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communications. Prerequisite: Grade of C or higher in PORT 1004 or its equivalent, or departmental approval through placement.

2003 (3 hours)**Intermediate Portuguese I**

Increases learners' ability to use the language in a wider range of situations and with greater

accuracy. Increased use of authentic materials.

Study of grammar as aid to communication.

Prerequisite: Grade of C or higher in PORT 1014 or its equivalent, or departmental approval through placement.

2013 (3 hours)**Intermediate Portuguese II**

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials.

Study of grammar as aid to communication.

Prerequisite: Grade of C or higher in PORT 2003 or its equivalent, or departmental approval through placement.

3463 (3 hours)**Business Portuguese**

Acquisition of basic practical tools and cultural knowledge necessary for success in the business world of Portuguese-speaking countries. Prerequisite: PORT 2013 or its equivalent, departmental approval through placement, or permission of instructor.

Russian (RUSS)

1004 (4 hours)

Beginning Russian I

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication.

Prerequisite: No previous training or experience in Russian. All students with previous training or experience in Russian, including native speakers, must consult the Department of Languages for placement advice.

1014 (4 hours)

Beginning Russian II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication.

Prerequisite: Grade of C or higher in RUSS 1004 or its equivalent. All students with previous training or experience in Russian, including native speakers, must consult the Department of Languages for placement advice.

2003 (3 hours)

Intermediate Russian I

Emphasis on increasing learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in RUSS 1014 or its equivalent. All students with previous training or experience in Russian, including native speakers, must consult the Department of Languages for placement advice.

2013 (3 hours)

Intermediate Russian II

Emphasis on increasing learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as aid to communication. Prerequisite: RUSS 2003 with a grade of C or higher, or permission of instructor. All students with previous training or experience in Russian, including native

speakers, must consult the Department of Languages for placement advice.

2886 (6 hours)

Intensive Russian Workshop

Prerequisites: RUSS 1004 and permission of instructor.

2991, 2992, 2993 (1-3 hours)

Independent Study

Prerequisite: Permission of instructor.

3003 (3 hours)

Russian Conversation and Grammar

Development of oral proficiency to the advanced level while awareness of Russian culture is raised. Group and pair work accompanied by use of authentic materials as well as by further study of grammar.

Prerequisite: RUSS 2013 or equivalent, or permission of instructor. All students with previous training or experience in Russian, including native speakers, must consult the Department of Languages for placement advice.

3013 (3 hours)

Russian Culture

Examines Russian cultural heritage from the founding of Kievan Rus' in the 9th century to the October Revolution of 1917. Discussions center on primary and secondary texts in geography, history, literature, music, painting, and politics. Prerequisite: RUSS 2013 or equivalent, or permission of instructor.

3023 (3 hours)

Culture of the Soviet Union

The life, social forces, and worldview of Soviet citizens after the 1917 Revolution.

Examination of scholarly writings, literary works, newspaper articles, and film adds a human dimension to official Western and Soviet assessments of one of the world's most prominent yet insular societies. Prerequisite: RUSS 2013 or equivalent, or permission of instructor.

3033 (3 hours)

Approaches to Russian Literature

Introduces several approaches to literary analysis and outlines the course of 19th-century Russian literature. Works of fiction, drama, and poetry serve as target texts for the application

of such seminal literary theories as Russian Formalism and Marxist criticism. Prerequisite: RUSS 2013 or equivalent, or permission of instructor.

3043 (3 hours)

20th-Century Russian Literature

Major literary movements and trends in Russian literature from the close of the 19th century to the present. The richness, diversity, and experimental nature of Russian Modernism is juxtaposed to the ideologically correct literature of political and social utility known as Socialist Realism. Prerequisite: RUSS 2013 or equivalent, or permission of instructor.

3683 (3 hours)

Advanced Grammar and Composition

Comprehensive review of Russian grammar and idiomatic structure. Extensive practice in composition. Précis work and sophisticated grammatical drills. Analysis of the prose styles

of a variety of Russian authors. Prerequisite: RUSS 2013 or equivalent, or permission of instructor.

3886 (6 hours)

Intensive Russian Workshop

Prerequisite: Permission of instructor.

3992, 3993 (2-3 hours)

Independent Study

By arrangement with a Russian instructor. Prerequisite: Permission of instructor.

4886 (6 hours)

Russian Workshop

Prerequisite: Permission of instructor.

4991, 4992, 4993 (1-3 hours)

Independent Study

By arrangement with a Russian instructor. Prerequisite: Permission of instructor.

Spanish (SPAN)

1004 (4 hours)

Beginning Spanish I

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication. Prerequisite: No previous training or experience in Spanish, or departmental approval through placement.

1014 (4 hours)

Beginning Spanish II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to novice learners. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in SPAN 1004 or its equivalent, or departmental approval through placement.

2003 (3 hours)

Intermediate Spanish I

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as aid to communication.

Prerequisite: Grade of C or higher in SPAN 1014 or its equivalent, or departmental approval through placement.

2013 (3 hours)

Intermediate Spanish II

Increases learners' ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as aid to communication. Prerequisite: Grade of C or higher in SPAN 2003 or its equivalent, or departmental approval through placement.

3003 (3 hours)

Composition in Spanish

Extensive practice in composition to help students write at the advanced level. Attention to coherence and style as well as to sentence structure. Study of grammar as an aid in achieving greater accuracy in the written language. Required for major. Prerequisite: SPAN 2013 or its equivalent, departmental approval through placement, or permission of instructor.

3013 (3 hours)

The Culture of Spain

Major events, forces, and figures that have helped to shape the culture of modern Spain,

including institutions, thought, and artistic production. Prerequisite: SPAN 2013 or its equivalent, departmental approval through placement, or permission of instructor.

3023 (3 hours)

Latin American Cultures

Political, economic, social, and historical background of Latin America. Attention to mutual problems and interrelationships among and between the various states. Prerequisite: SPAN 2013 or its equivalent, departmental approval through placement, or permission of instructor.

3033 (3 hours)

Explication of Hispanic Literary Texts

Introduction to the analysis and interpretation of Spanish and Spanish American literary texts through the conventions of literary genre. Students compose written analyses of literary texts and identify corresponding contextual cultural situations. Required for major. Prerequisite: One 3000-level Spanish course or permission of instructor.

3043 (3 hours)

Conversation in Spanish

Emphasis on speaking and listening, with reading and writing as skills that are necessary for continued development of oral proficiency. Prerequisite: SPAN 2013 or equivalent, departmental approval through placement, or permission of instructor. Does not count toward the minor in Spanish. Counts toward the major if taken before or during a study abroad experience in a Spanish-speaking country.

3073 (3 hours)

Spanish Morphology and Syntax

In-depth study of Spanish morphology and syntax. Observation and analysis of verbs, nouns, and other parts of speech (morphology) and how they work together (syntax) to convey meaning in context (discourse). Recommended for those who wish to teach Spanish. Prerequisite: SPAN 2013 or equivalent, or permission of instructor.

3123 (3 hours)

Introduction to Spanish Linguistics

Introduction to basic concepts of linguistic theory illustrated with examples of Spanish linguistics. Students perform phonetic, phonological, morphological, syntactic, and

semantic analysis, and study linguistic variation and change in Spanish dialects and Spanish in contact with other languages. Required for major. Prerequisite: SPAN 2013 or its equivalent, departmental approval through placement, or permission of instructor.

3313 (3 hours)

Spanish Phonetics

Study of the sound system of Spanish. Extensive practice to improve pronunciation plus study of the phonological rules that contribute to a foreign accent. Examination of major dialect variations in Spanish pronunciation. Recommended for those who wish to teach Spanish. Prerequisite: SPAN 2013 or its equivalent, departmental approval through placement, or permission of instructor.

3333 (3 hours)

Spanish Film

History of Spanish film and analysis of historically important, critically renowned, and internationally recognized works and their directors. Particular attention to the movies as reflections of and reactions to the socioeconomic conditions, cultural norms, and predominant values of the Spain in which they are set or produced. Prerequisite: SPAN 2013, departmental approval through placement, or permission of instructor. Same as FLM 3333.

3403 (3 hours)

Spanish Translation

Fundamental issues, options, and alternatives in translating from Spanish into English. Comprehension and interpretation within the contexts of literal meaning, connotation, cultural awareness, language varieties, genres, and styles of both source text and the target audience. Students are responsible for specific translation tasks. Prerequisite: One 3000-level Spanish course, departmental approval through placement, or permission of instructor. Students educated in a language other than English should consult instructor prior to enrolling.

3463 (3 hours)

Business Spanish

Acquisition of basic practical tools and cultural knowledge necessary for success in the business world of Spanish-speaking countries. Prerequisite: SPAN 2013 or its equivalent,

departmental approval through placement, or permission of instructor.

3473 (3 hours)

Argentine Film

Film communicates perspectives essential to the understanding of cultural, historical and societal issues. Students gain knowledge of Argentine history, culture and society as presented in films. Focuses on Films dealing with Argentine cultural icons and the military dictatorship (1976-1983) and its aftermath such as Camila O'Gorman, Eva and Juan Peron, Che Guevara, The Falklands, Malvinas War, the Argentine exiles, etc. Films include Oscar and film festival winners. Prerequisite: SPAN 3033 or SPAN 3123 or permission of instructor.

3603 (3 hours)

Medical Spanish

Goal of providing future healthcare professionals the ability to use and reinforce the major communicative functions in Spanish like describing, comparing, reacting and recommending, narrating in the past, talking about likes and dislikes, talking about the future through dialogues, reading, materials, audio activities in contextualized medical terms, including cross-cultural aspects. Prerequisites: SPAN 2013 or equivalent with grade of C or higher and permission of instructor.

3991, 3992, 3993 (1-3 hours)

Independent Study

By arrangement with a Spanish instructor. Prerequisite: Permission of department chair.

4003 (3 hours)

Spanish Stylistics

Writing style: application of stylistics to the development of skill in written expression during study abroad. Advanced work in principles of grammar and composition. Prerequisite: Approval of departmental advisor.

4023 (3 hours)

Bilingualism

Approaches bilingualism from a psycholinguistic and social perspective, with emphasis on US Hispanics and various psycholinguistic and sociolinguistic aspects of bilingualism, such as code-switching and language mixing, age-related differences, the influence of the first language, and the role of

attitudes, motivation, and learning context. Prerequisite: SPAN 3123 or permission of instructor.

4033 (3 hours)

The Theatre in Spain

Literary and sociopolitical aspects of major Spanish plays are emphasized. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4043 (3 hours)

Narrative Patterns and the Quijote

The place of Don Quijote in the development of narrative fiction, with emphasis on the play of linguistic, formal, and thematic levels. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4053 (3 hours)

Poetry of Spain

Concentrated study of selected masterpieces of Spanish poetry. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4073 (3 hours)

Poetry of Latin America

Emphasis on the Modernist poets and contemporary masters. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4083 (3 hours)

The Novel in Latin America

An overview of the Latin American novel. Emphasis on the 20th century. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4093 (3 hours)

Short Story of Latin America

Emphasis on the 20th-century masters of the short story. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4103 (3 hours)

Modern Spanish Narrative

Attention to social commentary, formal development, and experimentation. Course may be repeated for credit with different topics. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4113 (3 hours)

Special Topics in Spanish

A particular topic in literature, culture, or linguistics. Course may be repeated for credit with different topics. Prerequisites: If the topic

is in literature, then SPAN 3033 or permission of instructor. If the topic is in culture, then one 3000-level course. If the topic is in linguistics, then SPAN 3123, LANG/ANTH 2023, or permission of instructor.

4303 (3 hours)

The Development of Modern Spanish

Modern linguistic analysis of the grammar, pronunciation, and vocabulary of Spanish and related languages, with emphasis on the acquisition and learning of linguistic structures and the emergence of a variety of Spanish dialects. Prerequisite: SPAN 3123 or permission of instructor.

4313 (3 hours)

History of the Spanish Language

Internal and external history of the Spanish language with emphasis on how modern Spanish evolved and its genetic and cultural relationships with English and other languages. Prerequisite: SPAN 3123 or LANG/ANTH 2023 or ENGL 2293, or permission of instructor.

4533 (3 hours)

Internship Seminar

Prerequisite: Permission of instructor.

4863 (3 hours)

Internship in Study Abroad

Combines academic coursework with pre-professional work experience in a Spanish-

speaking country. Prerequisite: Permission of instructor.

4873 (3 hours)

Spanish Undergraduate Research

For undergraduates who wish to pursue their own program of research, specifying a problem, gathering and analyzing data, and producing a report under faculty guidance. Course may be repeated for credit with different topics. Prerequisite: Availability of a faculty member to sponsor and evaluate the project.

4973 (3 hours)

Seminar in Spanish Literature

Intensive study of an author, genre, movement, or theme. Course may be repeated for credit with different topics. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4983 (3 hours)

Seminar in Latin American Literature

Intensive study of an author, genre, movement, or theme. Course may be repeated for credit with different topics. Prerequisites: SPAN 3003 and 3033, or permission of instructor.

4991, 4992, 4993, 4994 (1-4 hours)

Independent Study

By arrangement with a Spanish instructor. Prerequisite: Permission of department chair.

School of Music

Director

Vernon D. Howard

Professors

John S. Powell

W. Roger Price

Teresa Reed

Joseph L. Rivers, Jr.

Applied Professor

Vernon D. Howard

Associate Professors

Kim Childs

Francis J. Ryan, Jr.

Applied Associate Professor

Susan Goldman-Moore

Assistant Professors

Brady McElligott

Judith Raiford

Richard A. Wagner

Applied Assistant Professors

Diane Bucchianeri

Stuart Deaver

Maureen O'Boyle

Director of Choral Activities

Kim Childs

Director of Instrumental Ensembles

Richard A. Wagner

Coordinator of Music Theory Studies

Teresa Reed

Coordinator of Jazz Studies

Vernon D. Howard

Coordinator of Music Education

Susan Goldman-Moore

Director of Opera Studies

Brady McElligott

Coordinator of Composition and Film Scoring

Joseph L. Rivers, Jr.

The School of Music, School of Art, and Department of Theatre form the Division of Fine and Performing Arts, which offers programs that lead to professional careers in the arts and to the appreciation of the fine and performing arts. The mission of the School of Music is to provide its students with a professional musical education that is consistent with the aims of a comprehensive university and relevant to a continually changing global and technological environment, to enrich the University's curriculum with course offerings and ensemble experiences available to all students, and to enhance campus and community life with quality concerts, recitals, and other programs and performances.

The School of Music offers both liberal arts and professional degree programs. The Bachelor of Arts (B.A.) degree is offered in general music studies. In cooperation with the School of Art, the Department of Theatre and the Department of Communication, the Bachelor of Arts degree is also offered with a major in arts management.

The Bachelor of Music (B.M.) degree is offered with majors in performance and in music composition.

The Bachelor of Music Education (B.M.E.) is offered in instrumental and vocal music.

A student may elect course offerings in jazz literature and techniques in any of the degree programs offered by the School of Music.

B.A. majors in music may receive a minor in film scoring by completing the requirements on page XX of this *Bulletin*. B.A. Music and B.M. Composition majors may elect a film scoring emphasis by completing the requirements on page XX of this *Bulletin*.

Admission to the Music Major

Students who wish to major in music in pursuit of the B.A., the B.M., or the B.M.E. degrees must first audition. The audition serves two purposes. It determines both 1) eligibility for admission to the music major, and 2) qualification for music grants-in-aid for both prospective music majors and non-majors who wish to participate in music performance groups. At the time of audition, a committee of faculty members determines whether a candidate qualifies for acceptance into the music major. Students who qualify to major in music through successful audition are notified in writing of both their admission to the major and their financial award. Students who do not intend to major in music, but who qualify for grant-in-aid, are notified in writing of both their financial award and the performance expectations associated with that award.

Both prospective music majors and currently enrolled students seeking to add the music major must perform an audition. If a student is taking lessons in the School of Music, the end-of-semester jury may constitute the required audition.

In the event that a student does not qualify for acceptance, a member of faculty of the School of Music will discuss other degree plans to be considered, or any steps that could be made towards admission to the music major at a later date.

Entrance Auditions Overview

Auditions for students entering as freshman are held in late January and early February of each academic year. Specific audition dates may be obtained by contacting the School of Music office. Students audition for faculty members in their specific performance areas. For instance, pianists audition for the piano faculty; and clarinetists audition for the woodwind faculty. Each audition concludes with an informal interview that gives the faculty members an opportunity to learn about the student's interests and goals.

Students are strongly encouraged to audition in person on the posted audition dates. Alternative audition dates and times are arranged only if conflicts with posted dates are unavoidable. Audition appointments may be requested by sending an email to musicauditions@utulsa.edu or to a faculty member in the student's performance area. Audition appointments may also be made by calling the School of Music at 918-631-2262.

The faculty in each instrumental and vocal area has specified music that is appropriate for auditions. To view this repertoire, please refer to the audition information on the School of Music website at <http://www.utulsa.edu/academics/colleges/henry-kendall-college-of-arts-and-sciences/Departments-and-Schools/School-of-Music/Auditions.aspx>.

Minor in Music

Students from other disciplines may receive a minor in music by completing 15 hours of selected music courses. The minor includes three hours in music theory (MUS 1013 or above), six hours in music history and literature, one hour of ensemble participation and two hours of instrumental or vocal applied study. A student must select an additional three credits of music electives for inclusion in the music minor. At least six hours of the music minor must be at or above the 3000 level. Students wishing to minor in music

must first enroll and successfully complete music theory (MUS 1013 or above), before progressing to other required courses. Prerequisites for the minor in music include: the ability to read music, previous performance experience in vocal or instrumental music, a successful placement audition, and permission of applied music faculty. Students should consult a Music Department Advisor or the College Advising Office for specific course requirements and a semester-by-semester plan of study.

Accreditation

The School of Music of The University of Tulsa is an accredited institutional member of the National Association of Schools of Music (NASM). The following degrees are listed by NASM: Bachelor of Arts in Music, Bachelor of Music Education, Bachelor of Music in Performance, and Bachelor of Music in Composition.

Learning Objectives

Students who complete the undergraduate degree in music will attain music literacy as demonstrated by the following:

- The ability to read, analyze, and perform notated music on one or more principal instruments;
- The ability to discuss and distinguish between various musical styles and genres and to understand their cultural sources;
- The ability to develop and defend musical judgments; and
- The ability to combine, as appropriate, capabilities in performance, analysis, creative activities, history, repertory, and technology.

Special Regulations and Information

- All students enrolled in applied music study, both music majors and non-majors, are assessed a fee of \$100.00 per credit hour. See page XX in the Tuition and Fees section of this *Bulletin*.
- Except for first-semester students, music majors are required to take final examinations in their principal instrument or voice before a jury of applied faculty members. B.M. Performance music majors are required to present a half-hour recital in the junior year and a one-hour recital in the senior year. Any student presenting a recital must be enrolled in applied music with the appropriate studio teacher during the semester in which the recital is to be presented.
- Lessons missed through student carelessness will only be made up at the discretion of the instructor.
- Students pursuing the B.M.E. degree are required to pass functional piano and guitar proficiency examinations before enrolling in student teaching.
- The School of Music offers delayed proficiency credit for those students who wish to demonstrate proficiency in music theory and/or ear training apart from approved transfer coursework or AP credit. Students seeking such credit for music theory and/or ear training courses must 1) be on record with the College of Arts and Sciences as having declared a music major or minor; 2) submit a petition for proficiency credit in writing to the Director of the School of Music; and 3) successfully pass, with a grade of C or better, the course subsequent to the course for which proficiency credit is sought. For example, a student must first pass MUS 1023 in order to earn proficiency credit for MUS 1013; a student must first pass

MUS 1013 in order to earn credit for MUS 1013 and MUS 1023. Such credit is restricted to six hours of music theory (MUS 1013 and 1023) and two hours of ear training (MUS 1011 and MUS 1021).

- Students who earn a 4 or 5 on the AP Music Theory Exam earn credit for the first year of music theory and ear training (MUS 1013, MUS 1011, MUS 1023, and MUS 1021.) The School of Music does not accept IB credit for music theory or ear training requirements.
- All B.A. and B.M. students must enroll in MUS 4973, Senior Seminar, during the first semester of their senior year and complete a senior project under the supervision of a full-time music faculty advisor. Students are required to submit a formal written proposal for their senior project by April 15th of the semester before they are enrolled in Senior Seminar.
- All music majors are required to complete eight semesters of recital attendance (MUS 1000, 2000, 3000, 4000).

Applied Music Lessons

All students should check carefully with their advisors each semester to make sure they are enrolled in the proper section of applied music. Normally students pursuing the B.A., the B.M. with a major in composition or the B.M.E. degree enroll for one credit hour each semester in their major applied instrument/voice.

A B.M. candidate in music performance enrolls for two hours credit in the major applied instrument/voice for the first four semesters and three hours credit for the last four semesters.

Non-majors may enroll in applied music lessons if space is available in the applied studio, if they are participants in School of Music ensembles, and by audition or permission of the applied instructor. Non-majors and students taking a secondary instrument may enroll for only one credit hour.

Bachelor of Arts with a Major in Music

Students enrolled in the B.A. curriculum with a major in music complete 124 credit hours as follows:

Tulsa Core Curriculum (ENGL 1033, First Seminar, Math, Foreign Language).....	23
Tulsa General Curriculum (Blocks I, II and III)	25
Minor.....	12
General Electives.....	11
AS 1001, The College Experience	1
Applied Music (Studio Lessons).....	8
Music Ensembles.....	8
MUS 1000, 2000, 3000, 4000, Recital Class.....	0
MUS 1011, Ear Training Lab I.....	1
MUS 1013, Music Theory I.....	3
MUS 1021, Ear Training Lab II	1
MUS 1023, Music Theory II.....	3
MUS 3253, Music History I.....	3
MUS 3263, Music History II	3
MUS 3273, Music History III.....	3
MUS 4973, Senior Seminar	3
Music Electives	16

Tulsa Curriculum Requirements for Students in the B.M. and B.M.E. Programs

Students enrolled in the Bachelor of Music or Bachelor of Music Education curriculum are not required to have a minor. They must complete the requirements of the Tulsa curriculum as follows:

Core Requirements

AS 1001, The College Experience	1
ENGL 1033, Exposition and Argumentation	3
FS 1973, First Seminar.....	3
MUS 4973, Senior Seminar (BM programs only; BME students take MUS 4363 for this requirement)	3
Language*	8 or 14-16*
MATH 1083 or 1093	3

Block I (Aesthetic Inquiry and Creative Experience)

MUS 1043, Jazz: Mirror of American Society <i>or</i> MUS 2083, Black American Musical Experience	3
Block I elective.....	3

Block II (Historical and Social Interpretation)

MUS 3253, 3263, 3273, Music History I, II, III	9
Block II elective	3

Block III (Scientific Investigation)

Block III elective	3
Block III elective with lab	4

*B.M.E. students, B.M. vocal performance students, and B.M. composition students are required to take two semesters of a foreign language (one year). B.M. instrumental performance and piano performance students must complete either an additional six hours in a second year of a language or two additional block courses, or an additional eight hours of a second language.

B.M. in Instrumental Performance

Students enrolled in the B.M. curriculum with a major in instrumental performance complete 124 credit hours that include the Tulsa curriculum requirements for students in the B.M. and B.M.E. programs as listed above and the following courses:

Major Instrument (Studio Lessons)20

Piano4

Music Ensembles8

MUS 0131, Chamber Music Ensembles4

MUS 1000, 2000, 3000, 4000, Recital Class.....0

MUS 1011, Ear Training Lab I.....1

MUS 1013, Music Theory I.....3

MUS 1021, Ear Training Lab II...1

MUS 1023, Music Theory II3

MUS 2011, Ear Training III.....1

MUS 2013, Music Theory III.....3

MUS 2021, Ear Training IV1

MUS 2023, Music Theory IV.....3

MUS 3062 (01), Instrumental Conducting I.....2

Junior Recital

MUS 4053, Symphonic Literature.....3

MUS 4973, Senior Seminar3

MUS 4993, Independent Study (Performance Literature and Pedagogy).....3

Music Electives.....12

Senior Recital

B.M. in Piano Performance

Students enrolled in the B.M. curriculum with a major in piano performance complete 125 credit hours that include the Tulsa curriculum requirements for students in the B.M. and B.M.E. programs as listed above and the following courses:

Piano (Studio Lessons) 20

Secondary Instrument 4

Music Ensembles 8

MUS 0131, Chamber Music Ensembles 4

MUS 0141, Accompanying 2

MUS 1000, 2000, 3000, 4000, Recital Class..... 0

MUS 1011, Ear Training Lab I..... 1

MUS 1013, Music Theory I..... 3

MUS 1021, Ear Training Lab II 1

MUS 1023, Music Theory II 3

MUS 2011, Ear Training III 1

MUS 2013, Music Theory III 3

MUS 2021, Ear Training IV..... 1

MUS 2023, Music Theory IV 3

MUS 3062 (01), Instrumental Conducting I 2

Junior Recital

MUS 4143, Piano Literature I..... 3

MUS 4293, Piano Pedagogy..... 3

MUS 4343, Piano Literature II..... 3

MUS 4973, Senior Seminar..... 3

Music Electives 8

Senior Recital

B.M. in Vocal Performance

Students enrolled in the B.M. curriculum with a major in vocal performance complete 124 credit hours that include the Tulsa curriculum requirements for students in the B.M. and B.M.E. programs as listed above and the following courses:

Voice (Studio Lessons)20

Piano4

Music Ensembles8

MUS 0161, Opera Theatre (six semesters required).....6

MUS 1000, 2000, 3000, 4000, Recital Class.....0

MUS 1011, Ear Training Lab I.....1

MUS 1013, Music Theory I.....3

MUS 1021, Ear Training Lab II1

MUS 1023, Music Theory II3

MUS 2011, Ear Training III.....1

MUS 2013, Music Theory III.....3

MUS 2021, Ear Training IV1

MUS 2023, Music Theory IV3

MUS 2092, Diction for Singers I.....2

MUS 2212, Diction for Singers II2

MUS 3062 (02), Choral Conducting I2

Junior Recital

MUS 4273, Opera Literature.....3

MUS 4403, Vocal Pedagogy.....3

MUS 4413, Vocal Literature.....3

MUS 4973, Senior Seminar3

Music Electives.....9

Senior Recital

B.M. in Composition

Students enrolled in the B.M. curriculum with a major in composition complete 127 credit hours that include the Tulsa Curriculum requirements for students in the B.M. and B.M.E. programs as listed above and the following courses:

Applied Music (Studio Lessons)..... 8

Piano 4

Music Ensembles 8

MUS 0061, Jazz Workshop..... 1

MUS 1000, 2000, 3000, 4000, Recital Class..... 0

MUS 1011, Ear Training Lab I..... 1

MUS 1013, Music Theory I..... 3

MUS 1021, Ear Training Lab II..... 1

MUS 1023, Music Theory II..... 3

MUS 2011, Ear Training III 1

MUS 2013, Music Theory III 3

MUS 2021, Ear Training IV..... 1

MUS 2023, Music Theory IV 3

MUS 2182, Introduction to Composition I 2

MUS 2192, Introduction to Composition II..... 2

MUS 3013, Counterpoint I..... 3

MUS 3023, Counterpoint II..... 3

MUS 3042, Composition III..... 2

MUS 3052, Composition IV 2

MUS 3062 (Section 01 or 02), Conducting I..... 2

MUS 3223, Introduction to Film Scoring..... 3

MUS 3243, Instrumentation 3

MUS 4053, Symphonic Literature..... 3

MUS 4162 (either section 01 or 02) Conducting II 2

MUS 4203, Advanced Composition V..... 3

MUS 4213, Advanced Composition VI..... 3

MUS 4420, Composition Recital Preparation 0

MUS 4430, Composition Recital Preparation 0

MUS 4473, Analysis of Contemporary Music..... 3

MUS 4973, Senior Project..... 3

Music Electives 8

B.M.E. in Instrumental Music

Students enrolled in the B.M.E. curriculum in instrumental music complete 131 credit hours that include the Tulsa curriculum requirements for students in the B.M. and B.M.E. programs as listed above and the following courses:

Applied Music (Studio Lessons).....	8
Piano	4
Applied Voice lessons or choir.....	1
Music Ensembles	8
MUS 1000, 2000, 3000, 4000, Recital Class.....	0
MUS 1011, Ear Training Lab I.....	1
MUS 1013, Music Theory I.....	3
MUS 1021, Ear Training Lab II	1
MUS 1031, Guitar Proficiency.....	1
MUS 1023, Music Theory II	3
MUS 2011, Ear Training III.....	1
MUS 2013, Music Theory III.....	3
MUS 2021, Ear Training IV.....	1
MUS 2023, Music Theory IV.....	3
MUS 3062 (01), Instrumental Conducting I.....	2
MUS 3163, Elementary Music Education.....	3
MUS 3243, Instrumentation	3
MUS 4092, Band Pageantry	2
MUS 4162 (01), Instrumental Conducting II.....	2
MUS 4363, Music in the Secondary Schools (Instrumental)*	3
MUS 4802, Woodwind Instrument Methods.....	2
MUS 4812, String Instrument Methods	2
MUS 4822, Brass Instrument Methods	2
MUS 4832, Percussion Instrument Methods	2

*Music Education majors enroll in MUS 4363, Music in the Secondary Schools, to fulfill their senior seminar requirement.

Professional Education

EDUC 1101, Introduction to Education.....	1
EDUC 2103, Foundations of Education	3
EDUC 3171, Educational Technology for Instruction	1
EDUC 3713, Child and Adolescent Development and Learning.....	3
EDUC 3733, Measurement and Evaluation.....	3
EDUC 4013, Education and the Exceptional Child	3
EDUC 4221, Field Experience.....	1
EDUC 4626, Student Teaching in Middle School	6
EDUC 4636, Student Teaching in Senior High School	6
EDUC 4971, Seminar Student Teaching	1

B.M.E. in Vocal Music

Students enrolled in the B.M.E. in vocal music complete 124 credit hours that include the Tulsa curriculum requirements for students in the B.M. and B.M.E. programs as listed above and the following courses:

Voice (Studio Lessons)	8
Piano	6
Music Ensembles	8
MUS 1000, 2000, 3000, 4000, Recital Class.....	0
MUS 1011, Ear Training Lab I.....	1
MUS 1013, Music Theory I.....	3
MUS 1021, Ear Training Lab II	1
MUS 1031, Guitar Proficiency	1
MUS 1023, Music Theory II	3
MUS 2011, Ear Training III	1
MUS 2013, Music Theory III	3
MUS 2021, Ear Training IV.....	1
MUS 2023, Music Theory IV	3
MUS 2092, Diction for Singers I	2
MUS 3062 (02), Choral Conducting I	2
MUS 3163, Elementary Music Education	3
MUS 4162 (02), Choral Conducting II.....	2
MUS 4363, Music in the Secondary Schools (Vocal/Choral)*	3
MUS 4403, Vocal Pedagogy.....	3

* Music Education majors enroll in MUS 4363, Music in the Secondary Schools, to fulfill their senior seminar requirement.

Professional Education

EDUC 1101, Introduction to Education.....	1
EDUC 2103, Foundations of Education.....	3
EDUC 3171, Educational Technology for Instruction.....	1
EDUC 3713, Child and Adolescent Development and Learning	3
EDUC 3733, Measurement and Evaluation.....	3
EDUC 4013, Education and the Exceptional Child.....	3
EDUC 4221, Field Experience.....	1
EDUC 4616, Student Teaching in Elementary School	6
EDUC 4626, Student Teaching in Middle School <i>or</i> EDUC 4636, Student Teaching in Senior High School	6
EDUC 4971, Seminar Student Teaching	1

Emphasis in Film Scoring (29 hours)

Available to B.M. composition and B.A. music majors only.

MUS 2013, Music Theory III.....	3
MUS 2023, Music Theory IV.....	3
MUS/FLM 2133, Music and Film	3
MUS 2182, Introduction to Composition I.....	2
MUS 3113, Introduction to Digital Recording	3
MUS 3223, Introduction to Film Scoring.....	3
MUS 3243, Instrumentation	3
MUS 3413, Scoring for Film, TV, and Video Games.....	3
MUS 4183, Film Scoring Workshop.....	3
Film studies elective	3

Students with a film scoring emphasis should include video scoring as part of their senior project (B.A. music and B.M. composition) and senior recital (B.M. composition).

Minor in Music (15 hours)

Applied Music	2
Ensemble.....	1
MUS 1013, Music Theory I.....	3
MUS 3253, Music History I <i>or</i> MUS 3263, Music History II	3
Music History or Literature, 3000 level or above	3
Electives	3

Elective hours may include applied music ensemble, music theory, music literature, music history, Class Piano, or Class Guitar

Minor in Film Scoring (12 hours)

B.A. Music and Film Studies majors only	
MUS 2133, Music and Film.....	3
MUS 3113, Introduction to Digital Recording	3
MUS 3223, Introduction to Film Scoring.....	3
MUS 4183, Film Scoring Workshop.....	3

Music (MUS)

Ensembles, Accompanying, and Masterclasses

To encourage music ensemble participation by both music majors and non-majors, ensure accurate student transcript records, and avoid exceeding the 18-credit-hour-per semester restriction, all music ensemble classes are offered in double sections: a 0-credit section and a 1-credit section. Enrollment in an ensemble for 0-credit is subject to the following conditions:

- All enrollees will be graded, with the grade appearing on the student's transcript.
- Only full-time students are eligible for 0-credit sections.
- Music majors and minors must complete the required number of ensemble credit hours as specified in their degree programs. Music majors and non-majors must also enroll for credit (0-credit or 1-credit) for all additional ensembles they choose to participate in or are assigned to perform in to fulfill the obligations of their scholarship or grant-in-aid awards.

0020, 0021 (0-1 hour)

University Band

Open to all students. Members form the nucleus of the Symphonic Wind Ensemble, Concert Band, and Golden Hurricane Marching Band.

0030, 0031 (0-1 hour)

University Orchestra

Membership available to all qualified persons through audition. The standard symphonic and chamber literature is studied and performed.

0050, 0051 (0-1 hour)

TU Concert Chorale

The larger, non-auditioned chorus at The University of Tulsa. Performs music from the early Renaissance to the present. Performs at least one major concert a semester and combines regularly with Cappella Chamber Singers to perform larger choral works. Open to majors, non-majors, and faculty.

0060, 0061 (0-1 hour)

Jazz Workshop

Varied styles of literature for combos, big bands, and vocal jazz ensembles. Open through audition or approval of director. Specialized workshop sections as noted in course schedule: 1) Big Band; 2) Combo; 3) Vocal Jazz; 4) Improvisation Lab and 5) Jazz Guitar Ensemble.

0120, 0121 (0-1 hour)

Percussion Ensemble

Performance of music written for percussion instruments.

0130, 0131 (0-1 hour)

Chamber Music Ensembles

Chamber music involving both orchestral and band instruments in various combinations.

0141 (1 hour)

Accompanying

The development of accompaniment techniques, including sight-reading, transposition, and classification of music. Includes laboratory. Required for piano majors.

0150, 0151 (0-1 hour)

TU Chamber Players

Premiere, auditioned string ensemble. Advanced training in the art of ensemble playing. Exposes students to styles from all eras developing the bowing and ensemble skills that form the backbone of all professional string playing. Performance opportunities in both small ensembles and chamber orchestra throughout the year, on an off campus.

0160, 0161 (0-1 hour)

Opera Theatre

Public presentation of standard and contemporary opera literature, music comedy, and operetta, as well as backstage deportment, makeup, and set creation. Open through audition. Includes staging a major production.

0170, 0171 (0-1 hour)**Cappella Chamber Singers**

Open to music and non-music majors, is the premiere, auditioned 32-member vocal ensemble and performs Choral music from the early Renaissance to the present. In addition to seasonal performances, Cappella sings for the annual Lesson and Carols service, Baccalaureate service, and other campus functions, as well as regularly joining TU Chorale to perform larger choral works. The ensemble tours regularly and performs

regionally and nationally. Prerequisite: By audition only.

0211, 0221, 0231, 0241 (1 hour each)**Orchestra Repertoire Masterclass I-IV**

Four-semester course prepares students for orchestral auditions or entry into a master's program in orchestral performance. Consists of sight-reading, the study of orchestral excerpts, orchestral scores, and contemporary, jazz and pop styles in the symphonic setting. Students will present mock audition and may be required to attend rehearsals and performances of professional orchestral groups.

Applied Music Lessons

Students in the B.M. degree program enroll for 2 hours of credit for music lessons during their freshman and sophomore years. In their junior and senior years, when they are preparing recitals, they enroll for three hours credit. All other students should enroll for one hour of credit. Non-music majors and students pursuing a minor in music must pass a prerequisite audition and have the permission of the applied instructor before enrolling in music lessons.

0071 (1 hour)**Jazz Voice****0511, 0512, 0513 (1-3 hours)****Bassoon****0521, 0522, 0523 (1-3 hours)****Clarinet****0531, 0532, 0533 (1-3 hours)****Flute****0541, 0542, 0543 (1-3 hours)****French Horn****0551, 0552, 0553 (1-3 hours)****Oboe****0561, 0562, 0563 (1-3 hours)****Organ****0571, 0572, 0573 (1-3 hours)****Percussion****0581, 0582, 0583 (1-3 hours)****Piano****0591, 0592, 0593 (1-3 hours)****Saxophone****0601, 0602, 0603 (1-3 hours)****String Bass****0611, 0612, 0613 (1-3 hours)****Trombone****0621, 0622, 0623 (1-3 hours)****Trumpet****0631, 0632, 0633 (1-3 hours)****Tuba****0641, 0642, 0643 (1-3 hours)****Viola****0651, 0652, 0653 (1-3 hours)****Violin****0661, 0662, 0663 (1-3 hours)****Violoncello****0671, 0672, 0673 (1-3 hours)****Voice****0691, 0692, 0693 (1-3 hours)****Harp****0701, 0702, 0703 (1-3 hours)****Classical Guitar****0711, 0712, 0713 (1-3 hours)****Electric Bass****0721, 0722, 0723 (1-3 hours)****Euphonium****0731, 0732 (1-2 hours)****Electric Guitar**

1000, 2000, 3000, 4000 (0 hours)**Recital Class (Freshman, Sophomore, Junior and Senior)**

All music majors are required to enroll in Recital Class for eight semesters. Attendance of Recital Class and additional recitals and concerts is required each semester.

1003 (3 hours)**Introduction to Music**

An introduction to the study of the language of music through listening, analysis, and composition. Explores the elements of music, which include pitch notation, melody, rhythm and meter, intervals, scales, chords and musical form. Students learn to distinguish musical style through listening critically to art music and popular music in various styles and genres.

1011 (1 hour)**Ear Training Lab I**

Sight singing and rhythm reading. Melodic, rhythmic, and harmonic dictation.

Concentrates on diatonic melodies, melodic fragments, and diatonic chord progressions. Students also complete computer ear training lessons. Section offered with emphasis on jazz techniques.

1013 (3 hours)**Music Theory I**

Begins with music fundamentals and includes part writing of triads and the study of melodic structure. Emphasizes compositional and analytical skills and the study of music from the common practice period.

1021 (1 hour)**Ear Training Lab II**

Sight singing and rhythm reading. Melodic, rhythmic, and harmonic dictation.

Concentrates on diatonic melodies, melodic fragments, and diatonic chord progressions. Students also complete computer ear-training lessons. Section offered with emphasis on jazz techniques.

1023 (3 hours)**Music Theory II**

Covers melody harmonization, non-harmonic tones, the dominant seventh chord and other diatonic seventh chords, secondary dominants, modulation, and small forms. Emphasizes compositional and analytical skills and the study of music from the common practice period.

1031 (1 hour)**Guitar Proficiency**

Basic and functional guitar skills necessary for the student in the B.M.E. program. Prepares student for guitar proficiency examination.

1032 (2 hours)**Class Acoustic Guitar**

Solo guitar technique to develop skills for playing various styles of music. No previous experience required.

1043 (3 hours) Block 1**Jazz: Mirror of American Society**

Late 19th-century to present day America traced through jazz artists and styles.

1083 (3 hours) Block 1**Poets of the Piano**

A selective examination of historically significant, virtuoso pianists/composers, through their music, professional and personal lives.

1113 (3 hours) Block 1**Art of Singing**

Focus on elementary vocal technique; breath control, tonal production, resonance, and diction; principles of presentation and musical interpretation of selected songs from the classical and popular repertoire. Open to students with little or no vocal music background.

1141 (1 hour)**Class Piano I**

Basic and functional keyboard skills necessary for the student in the B.M.E. program. Prepares student for piano proficiency examination.

1151 (1 hour)**Class Piano II**

Continuation of MUS 1141.

1161 (1 hour)**Introduction to Jazz Keyboard Harmony**

Jazz chord voicings and substitutions for keyboard, with applications for other instruments.

2011 (1 hour)**Ear Training Lab III**

Sight singing and rhythm reading. Melodic, rhythmic, and harmonic dictation.

Concentrates on diatonic and chromatic melodies and chord progressions. Students also

complete computer ear training lessons. Section offered with emphasis on jazz techniques.

2013 (3 hours)

Music Theory III

Review of tonal harmonic materials. Continuation of the study of chromatic harmony. Emphasizes formal analysis of representative works from the Baroque, Classical, and Romantic periods.

2021 (1 hour)

Ear Training Lab IV

Sight singing and rhythm reading. Melodic, rhythmic, and harmonic dictation. Chromatic and 20th-century materials are emphasized. Students also complete computer ear training lessons. Section offered with emphasis on jazz techniques.

2023 (3 hours)

Music Theory IV

Investigation of various approaches to the analysis of late 19th- and 20th-century music. Emphasizes formal analysis of representative works from the period studied. Composition project.

2063 (3 hours) Block 1

Composers' World

The relationship between art, music, and the society that produces it is examined through a detailed consideration of the lives and music of five master composers from different style periods. Prior experience with music is not required.

2073 (3 hours) Block 1

Musical Experience

A study of Western Art Music to develop and strengthen the positive relationship between musical understanding and the enjoyment of music.

2083 (3 hours) Block 1

Black American Musical Experience

Black American musical styles and genres from the Antebellum period through the present. Includes listening component, readings in African American history and aesthetics. Research paper required.

2092 (2 hours)

Diction for Singers I

Beginning language pronunciation for singers. Emphasizes the differences between the spoken and sung language and addresses the special problems of articulation of consonants and modification of vowels in relation to good vocal production. Includes proper English, Italian, liturgical Latin, and Spanish.

2113 (3 Hours) Block 2

History of Rhythm and Blues

A study of black-American popular music and its evolving social contexts from the late 1930s to the present.

2123 (3 hours) Block 2

Music Cultures of the World

Examines various forms of non-western ethnic music with the goal of achieving a global perspective. Includes musical cultures of India, Middle East, China, Japan, Indonesia, sub-Saharan Africa, American Indians, and Latin America.

2133 (3 hours) Block 1

Music and Film

This course explores the nature of musical expression in general, and music's particular contribution to the development of motion pictures. A chronological survey of the musical techniques and styles used in film, and the strategies for analyzing and evaluating film music. No previous musical experience necessary. Same as FLM 2133.

2182, 2192 (2 hours each)

Introduction to Composition I and II

Open to all music majors. Concepts of 20th-century music, writing in smaller forms, use of various harmonic and rhythmic procedures. Students encouraged to explore various compositional styles and develop their own. Sections in jazz composition, including foundations of jazz harmony and theory. Also basic analysis, chord substitutions, and writing in blues, modal, and standard jazz song forms. Prerequisite: MUS 1023 or the equivalent.

2212 (2 hours)

Diction for Singers II

A continuation of MUS 2092. Includes French, German, and Russian.

2213 (3 hours) Block 1**The Music of the Harry Potter Films**

Investigates the role of musical scoring for film, focusing on how the music underscore of the Harry Potter films, composed primarily by John Williams, Patrick Doyle, Nicholas Hooper, and Alexandre Desplat, supports story, character, and picture. Course will begin with a close look at how a film composer works and thinks in a musical language, the elements of music, and the technical and aesthetic functions of film music. Course will continue with a look at the thematic and dramatic design of the music from each of the films. Same as FLM 2213.

2413 (3 hours) Block 1**Aesthetics: Dialogues Between Faith and the Arts**

An exploration of the nature of faith and how the arts might represent a connection to God or the Divine. These and similar issues will be investigated through readings, experiencing and analyzing various artworks, discussions, and practical application through the development of individual projects.

2453 (3 hours) Block 2**Music and Society in the Americas through Film**

Introduction to the cultural history of modern music in the Americas. Explores the context of several American music genres including Blues, Jazz, Tango, Broadway, Caribbean styles, Country Tejano/Conjunto, Rock and Roll, Reggae and Hip Hop. Emphasis on understanding cross-cultural influences, interpreting musical commentary on gender, community, commercial and political trends in the larger historical development of music in the Americas. Same as FLM/HIST 2453.

3013 (3 hours)**Counterpoint I**

A detailed study of 16th-century modal counterpoint in the style of Palestrina, including compositional work and analysis.

3023 (3 hours)**Counterpoint II**

A detailed study of 18th-century counterpoint in the style of Bach, including compositional and analytical work.

3042, 3052 (2 hours each)**Composition III and IV**

Composition combined with orchestration, with emphasis on the most modern techniques available to the composer today. Prerequisite: MUS 2192.

3062 (2 hours)**Instrumental/Choral Conducting I**

Theory and fundamentals of conducting choral or instrumental music. Section 01 of this course is Instrumental Conducting I. Section 02 of this course is Choral Conducting I.

3113 (3 hours)**Introduction to Digital Recording**

Digital audio recording, mixing, and mastering techniques using Pro Tools systems. Same as FLM 3213.

3123 (3 hours)**Digital Recording II**

Designed to further students in professional audio recording techniques. Provides for parallels involved in live sound mixing or 'sound reinforcement.' Emphasis on sound for picture, i.e. editing, mixing, Foley, SFX, ADR, and time code. Digital recording, editing, and missing concepts to be developed in Pro Tools audio software by Avid. Prerequisite: MUS 3113.

3163 (3 hours)**Elementary Music Education**

Methods and materials for teaching general music in elementary school, grades K-5, with cognitive development and learning styles as a basis for instructional strategy. Includes Orff-Schulwerk, Kodaly, and Dalcroze. Prerequisite: MUS 2023.

3223 (3 hours)**Introduction to Film Scoring**

Music and film studies majors only. Introduction to the art and technology of scoring music for film. Students compose original film cues and collaborate with student directors. Prerequisite: Permission of instructor. Same as FLM 3223.

3243 (3 hours)**Instrumentation**

Study of all instruments, range, transposition, and timbre. Scoring for sections and full orchestra. Prerequisite: MUS 2023.

3253 (3 hours)**Music History I**

The history of music from Greek classicism through Medieval and Renaissance periods.

3263 (3 hours)**Music History II**

The history of music from the Baroque period through pre-classical and classical music.

3273 (3 hours)**Music History III**

The history of music from Romantic through contemporary 20th century.

3413 (3 hours)**Scoring for Film, TV, and Video Games**

Develops technique and skill in composing music for film, television and video games and an understanding of the business and how to succeed in it. Composing for different genres of film and television (drama, action, comedy, animation, etc), video game music techniques, sound-alikes, midi sequencing, and audio mixing. Students are required to complete a final project in collaboration with a student film director in the scoring of an original film, or a similar project that involves collaboration with a director. Same as FLM 3413.

Prerequisite: FLM/MUS 3223.

4023 (3 hours)**American Music**

Explores the many facets of American music. Topics vary: jazz, contemporary pop music, musical theatre, composers (Copland, Harris, Bernstein), and folk music.

4053 (3 hours)**Symphonic Literature**

Selected works important to the development of the symphonic form from 1650 to the present.

4092 (2 hours)**Band Pageantry**

Study and application of latest methods, techniques and materials in marching band show design; including creation and development of drill design and musical arrangements for the marching band: off-campus observation required.

4143 (3 hours)**Piano Literature I**

Survey of solo keyboard literature from its beginnings through Beethoven. Historical, technical, theoretical, formal, and stylistic elements of the music are considered.

4162 (2 hours)**Instrumental/Choral Conducting II**

A continuation of MUS 3062. Section 01 of this course is Instrumental Conducting II. Section 02 of this course is Choral Conducting II.

4183 (3 hours)**Film Scoring Workshop**

Music and film studies majors only. Musical scoring of more extended film projects, collaboration with student directors, and participation in a live recording session. Prerequisite: MUS/FLM 3223. Same as FLM 4183.

4203, 4213 (3 hours each)**Advanced Composition V and VI**

Advanced orchestration coupled with individual compositional techniques and styles. Usually combined with MUS 4420 and 4430 respectively, leading to a formal performance of the student's compositions. Prerequisite: MUS 3052.

4223, 4233 (3 hours each)**Pedagogy and Performance Repertoire I and II**

Students in this course will ascertain the knowledge and develop the skills necessary to set up a successful teaching studio. Study will include research of repertoire and a study of pedagogical skills.

4273 (3 hours)**Opera Literature**

Examines the music, style, and content of specific operas, as well as the significance of these operas to the periods in which they were written and to the present day.

4293 (3 hours)**Piano Pedagogy**

Discussion and study of teaching techniques for piano including musicianship, teaching observations, establishing a studio, repertoire classes, recitals, contests, and survey of materials from beginning to intermediate level.

4343 (3 hours)**Piano Literature II**

Continues the study of keyboard literature begun in MUS 4143 and traces solo piano composition from 1827 until the present day.

4363 (3 hours)**Music in the Secondary Schools**

Procedures of teaching vocal, instrumental, and general music in the secondary schools, as well as philosophy and principles of secondary music curriculum design. Prerequisite for student teaching in music.

4393 (3 hours)**Jazz Pedagogy**

Concepts, methods, and resources. Examination and comparison of recordings, textbooks, literature, and materials related to the study and teaching of jazz.

4403 (3 hours)**Vocal Pedagogy**

Vocal function, vocal anatomy, and teaching methods, with emphasis on application for both teachers and performers.

4413 (3 hours)**Vocal Literature**

A detailed examination of the art song, through analysis of music text and performance practices. Emphasis on 19th- and 20th-century repertoire.

4420, 4430 (0 hours)**Compositional Recital Preparation**

Preparation, direction, and rehearsal of a recital of music composed as part of the work in the composition degree program.

4473 (3 hours)**Analysis of Contemporary Music**

Study and application of post-tonal analytical techniques to a selection of pieces from atonal and contemporary music literature. Prerequisite: MUS 2023.

4802 (2 hours)**Woodwind Instrument Methods**

A comprehensive approach to the performance and pedagogy of the woodwind instruments for the music education major.

4812 (2 hours)**String Instrument Methods**

A comprehensive approach to the performance and pedagogy of string instruments for the music education major.

4822 (2 hours)**Brass Instrument Methods**

A comprehensive approach to the performance and pedagogy of brass instruments for the music education major.

4832 (2 hours)**Percussion Instrument Methods**

A comprehensive approach to the performance and pedagogy of the percussion family for the music education major.

4973 (3 hours)**Senior Seminar****4983 (3 hours)****Directed Studies in Music Theory****4991, 4992, 4993 (1-3 hours)****Independent Study**

Independent study on special topics. Prerequisite: Permission of instructor.

Organizational Studies

Director

Kalpana Misra, Political Science

Organizational studies is an interdisciplinary major, comprised of 39 hours of course work leading to a Bachelor of Arts degree. It is designed for those students who wish to study organizational behavior and structure in the public and private realms, without limiting themselves to one of the participating disciplines. The idea is to provide students with knowledge and skills which will prepare them for entry level administrative positions in both public and private organizations. A minor is required.

Course Requirements

Lower Level Required..... 9

- Select three courses from the following:
- COM 2013, Communication Systems
- COM 2113, Public Communication
- COM 2913, Organizational Communication and Society
- ECON 2013, Principles of Economics I: Macroeconomics
- ECON 2023, Principles of Economics II: Microeconomics
- PSY 2053, Psychology of Work

Upper Level Required.....12

- COM 3933, Organizations and their Publics
- ENGL 3003, Writing for the Professions
- MGT 3003, Principles of Management
- PSY 3073, Industrial/Organizational Psychology

Upper Level Electives..... 9

- Select three courses from the following:
- AM 3013, Arts Administration I
- AM 3023, Arts Administration II
- ANTH 4083, Introduction to Museum Work
- COM 3333, Small Group Communication
- COM 3343, Communication and Conflict Management
- COM 4613, Internship
- MGT 3063, Organizational Behavior
- MGT 3103, Human Resource Management
- MGT 4023, Negotiation and Management Skills
- MKTG 3003, Principles of Marketing
- PSY 3053, Social Psychology
- SOC 3023, Sociology of Work and Occupations

Senior Project..... 3

Recommended Block Courses:

- Block I: SP 2113, Public Speaking
- Block II: BUS 1013, Business and Society and
- SOC 1033, The Sociological Imagination: An Introduction to Sociology

No more than 15 credits in the major may be taken in courses offered by the Collins College of Business. Students planning to use upper level business electives should choose at least one of the economics courses as a lower level elective.

Minor Field for Organizational Studies Majors

Students must, with the advisor's approval, enroll in at least 12 hours in a minor field. Six of these hours must be at the 3000 level or above.

Philosophy and Religion

Chair

Jane Ackerman, Religion

Professors

F. Russell Hittinger, Religion

Jacob Howland, Philosophy

Associate Professors

Jane Ackerman, Religion

Matthew Drever, Religion

Michel Futch, Philosophy

Stephen Gardner, Philosophy

The Department of Philosophy and Religion offers programs of study in two separate disciplines, philosophy and religion. Students may pursue the Bachelor of Arts degree in either philosophy or religion. Programs of the two disciplines are listed separately below. Students who elect a double major in philosophy and religion should note that PHIL/REL 1453 and 2453 count for credit in both majors.

Philosophy

The undergraduate major in philosophy explores the most fundamental questions about human life, including the nature and meaning of the basic elements of human experience and the limits of knowledge. The course of study introduces students to the great thinkers and ideas that have shaped our past and present culture. Students develop a variety of important intellectual skills, including critical thinking and evaluation, the ability to see implications and alternatives, to read and write with insight and logical precision, and to undertake graduate and professional studies.

Philosophy Learning Objectives

- To impart a rich understanding of the West's major philosophers and their ideas;
- To probe the central problems and issues that have shaped Western thought;
- To cultivate skills of analysis and logical argument in written and oral presentation; and
- To prepare students for future studies, graduate or professional.

Major Subject

To complete a major in philosophy at The University of Tulsa, the student must complete 30 hours of coursework. Two-thirds of these, or 21 hours, are to be taken at the 3000-4000 level. Students are required to take two interdisciplinary courses: PHIL/REL 1453, The Great Conversation I: Ancient and Medieval, and PHIL/REL 2453, The Great Conversation II: Modern and Contemporary. Philosophy students must complete a course in logic or reasoning.

Minor Field for Philosophy Majors

A minor requires at least 12 hours, of which six hours must be at the 3000 or 4000 level. Nine hours may be taken with the approval of the advisor.

Philosophy (PHIL)

1003 (3 hours) Block 2

Socrates to Sartre: Ideas that Shaped our World

Major ideas, figures, and movements in philosophy that have shaped Western thought and heritage from the beginnings of Greek thought to the present, including the broad historical and cultural context in which these ideas emerged.

1033 (3 hours) Block 1

Philosophy and Literature

An exploration of the philosophical significance of major works of literature.

1063 (3 hours) Block 2

Ethics and the Problems of Society

Major theories of ethics that have shaped Western thought and social institutions. Utilitarianism, natural rights, rational principles of conduct, and other sources of ethical justification are explored by addressing their implications for such current issues as abortion, sexual conduct, minority rights, and pornography.

1123 (3 hours) Block 1

Philosophy and Film

Film is the democratic art form par excellence. From this point of view, we study revenge, honor, rivalry, jealousy, betrayal, love, sacrifice, heroism, conformism, fear, and social cowardice, as these are reflected in classic films such as *High Noon* and *The Godfather*. Same as FLM 1123.

1453 (3 hours) Block 2

The Great Conversation I: Ancient and Medieval

Introduction to ancient and medieval thought about the origins of the cosmos and human life, the nature of God (or the gods), the relationship between human and divine spheres, and the foundations and limits of knowledge. Required for the philosophy major. Same as REL 1453.

2013 (3 hours) Block 1

Reasoning

The development of reasoning skills as used in reading critically, writing, and thinking about practical or theoretical issues. Emphasis on how to analyze, evaluate, and construct

arguments. Especially recommended for pre-law students.

2083 (3 hours) Block 2

Western Political Thought I: From the Greek Polis to the Modern State

The political theory of pagan antiquity in Greece and Rome, focusing on Plato and Aristotle, along with other writers. Attention to the role of Christianity in the evolution of Western political ideas. Same as POL 2083.

2093 (3 hours) Block 2

Western Political Thought II: From the English Revolution to the Russian Revolution

How Western modernity arose in 16th-19th centuries. Pursues changes in the idea of the individual and the political community from the Renaissance to the Enlightenment and from the era of democratic revolutions to the rise of industrial societies. Same as POL 2093.

2113 (3 hours) Block 1

Philosophy of Art

An examination of paintings, sculpture, literature, film, and music, in order to explore philosophical questions about the nature of art: Is beauty real? Is it definable? Can it be judged objectively? Is it subject to moral or political standards?

2183 (3 hours)

Current Problems in Political and Social Philosophy

Selected topics in political and social philosophy, including the concept of justice, the status of political rights, and the justification of social, economic, and legal institutions.

2233 (3 hours) Block 2

Existentialism in the 20th Century

Existential thought and related philosophies of the 20th century, including their influence on modern psychology, theology, and the arts.

2453 (3 hours) Block 2

The Great Conversation II: Modern and Contemporary

An examination of major figures in the break-off of philosophy from theology in the modern era. Consideration of the Reformation background of modern thought, the challenge

of scientific rationalism to religion, and the effort to conceive the moral and political foundations of society in wholly secular terms. Required for the philosophy major. Same as REL 2453.

3013 (3 hours)

Modern Philosophy

Works by major Continental and British philosophers from the 16th through the 18th centuries, including the influence of skepticism and the rise of modern science.

3023 (3 hours)

History of Ethics

The development of ethical reasoning from Plato to the present, with emphasis on problems of justifying moral judgments and understanding the meaning of ethical terms. Prerequisite: Junior standing or permission of instructor.

3043 (3 hours)

Ancient Philosophy

The beginnings of philosophical thought in the West. Prerequisite: One previous course in philosophy or permission of instructor.

3053 (3 hours)

Philosophy of Science

Methods, aims, and foundations of science, including the nature of scientific explanation, laws, and theories; the alleged objectivity of scientific theory-testing and theory-choice; and the structure of scientific revolutions. Attention to revolutionary episodes in the history of science. Prerequisite: One previous course in philosophy or background in science.

3073 (3 hours)

Metaphysics

Fundamental principles of such subjects as being, substance, essence, self, time, space, and the nature of reality. Course will focus on the work of a single thinker.

3163 (3 hours)

Continental European Philosophy

Introduction to 20th-century continental European philosophy with emphasis on the philosophy of Heidegger. Prerequisites: At least two courses in philosophy or permission of instructor.

3173 (3 hours)

Major Philosophical Figures

An in-depth look at a major figure in philosophy. Some consideration given to major and competing trends in the interpretation of this philosopher. Emphasis on how the thinker puts parts into a whole. Philosopher chosen and instructor will vary from semester to semester.

3183 (3 hours)

The Tradition of Existentialism

Historical survey of writings in the existentialist tradition, engaging in phenomenological analysis of the human condition. Such concepts and issues as freedom of will, alienation, bad faith, and responsibility are addressed.

3193 (3 hours)

Philosophy, Politics and Economics

Non-technical, historical survey of major economic theories from Adam Smith to the present (Mercantilism, Smith, Malthus, Ricardo, J.S. Mill, Fourier, Marx, Mises, Hayek, Keynes, Friedman, etc.) to show how those economic views reflect philosophical presuppositions and how they both reflect political contexts and shape future contexts.

3213 (3 hours)

Philosophical Anthropology

An exploration of ancient, modern, religious, and philosophical answers to the question, "What is Man?" An examination of how it sets apart "Athens" and "Jerusalem" as very different approaches to the question; of modern efforts to make anthropology the heart of philosophy; of the influential critique of humanism in Heidegger and the poststructuralists and of recent responses to that.

3223 (3 hours)

Nietzsche and Socrates

An exploration of ancient and modern interpretations of the philosopher Socrates, with special emphasis on the thought of Nietzsche. A consideration of the quarrel between philosophy and poetry, the nature of philosophical eros, the "decadence" of philosophy and philosophical rhetoric.

3243 (3 hours)**Liberalism and Democracy**

The evolution of liberal political philosophy in the 19th and 20th centuries, with emphasis on the tension between liberty and equality in economic and political life. Same as POL 3143.

3263 (3 hours)**Religion and Morality from Kant to Nietzsche**

Major themes and figures in 18th- and 19th-century moral philosophy and theology, with attention to the Enlightenment's effort to make secular sense of the moral world and to critics of this effort, both secular and theological. Same as REL 3263.

3283 (3 hours)**Topics in Philosophy and Religion**

A consideration of religious themes in philosophy and philosophical questions in religious thought and practice. Same as REL 3283.

3293 (3 hours)**Jewish Thinkers of the Twentieth Century**

An in-depth study of one or more major Jewish writers of the last century who have had an enduring impact on modern thought or culture, such as Hannah Arendt, Sigmund Freud, Franz Kafka, Walter Benjamin, Gershom Scholem, Franz Rosenzweig, Emmanuel Levinas and others.

3363 (3 hours)**Introduction to Early Christian Thought**

Survey of the first four centuries of Christianity after the New Testament period. Topics include the development of Christian doctrines, institutions, and movements. Same as REL 3363.

3383 (3 hours)**Protestant Reformation**

Survey of the religious issues at stake in the reformation and the historical and political context in which these issues were developed. Same as REL 3383.

4003 (3 hours)**Seminar in the History of Political Thought**

Seminar on a single author, the political thought of a particular time and place, or a theme or school of thought. For seniors majoring in history, political science, or

philosophy, or pursuing a certificate in political philosophy. Also open to underclass students who are exceptionally able or well-prepared. Same as HIST 4033 and POL 4033.

4023 (3 hours)**Philosophical Theology**

The theological character of certain aspects of contemporary philosophy and the philosophical significance of certain modern theological proposals. Same as REL 4023.

4053 (3 hours)**Aesthetics**

In-depth study of one or more major figures in the philosophy of art, such as Plato, Aristotle, Kant, Hegel, Schopenhauer, Sartre, or Heidegger. Prerequisite: One course in philosophy or permission of instructor.

4063 (3 hours)**Philosophy of Law**

Major alternative theories of the nature of law and legal systems and possible synthesis, with emphasis on selected principal writings of such philosophers as Hart, Kelsen, R.M. Dworkin, Ross, Fuller, and Raz. Topics include the nature of norms, the relation between law and morality studies, and issues in theory of adjudication. Prerequisites: Upper division standing and one previous course in either philosophy or political theory. Same as POL 4063.

4073 (3 hours)**Phenomenology**

Examination of the most important movement in European philosophy in the twentieth century which spawned Sartre's existentialism, Heidegger's ontology, hermeneutics, and post-structuralism. Attention to its consequences for history and historical science, anthropology, psychology, cultural studies, and methods of analysis and interpretation.

4143 (3 hours)**Studies in Plato and Aristotle**

Seminal Platonic dialogues or Aristotelian treatises, with attention to the established arena of public discourse within which philosophy competed for the prize of wisdom. Supplementary reading may include sections from Ancient Greek poetry, drama, and history. Prerequisite: One course in philosophy or permission of instructor.

4163 (3 hours)**Philosophy of Natural Law and Natural Right**

An introduction to the Western natural law tradition. The course is grounded in a study of Thomas Aquinas on natural law, and proceeds to examine discussions by Hobbes, Locke, Kant, Fuller, and Hart. Same as REL 4163.

4243 (3 hours)**Augustine**

An introduction to the theology of Augustine of Hippo, with special attention to his moral and political writings. Same as REL 4043.

4253 (3 hours)**Text and Meaning**

Interdisciplinary course on hermeneutics that examines how texts, contexts, and language communicate claims of meaning, value, and beauty. We will examine these issues through examples in art, religion, law, music, and literature. Same as REL 4253.

4263 (3 hours)**Kant and German Idealism**

Kant's "Copernican Revolution" in philosophy – the "Critique of Reason" – as it applies to science, nature, ethics, theology, politics, aesthetic and history, and its impact on German Romanticism, Idealism, and later movements like Marxism and Existentialism.

4333 (3 hours)**Jewish Philosophy and Revelation: Ancient and Medieval Approaches**

An exploration of philosophical reflection on the Hebrew scriptures in the ancient and

medieval periods, with emphasis on the rabbis of the Talmud and Maimonides. Prerequisite: One course in philosophy or religion, or permission of instructor. Same as REL 4333.

4453 (3 hours)**Hegel, Marx, and Nietzsche**

Development of 19th-century German philosophy including the problem of the nature and significance of history. Emphasis on Hegel, Marx, and Nietzsche, with additional readings from Fichte, Feuerbach, and Schopenhauer. Same as HIST 4453. Prerequisite: One course in philosophy, or related area with permission of instructor.

4543 (3 hours)**Philosophy of Religion**

Analysis of various religious stances and positions to understand the philosophical assumptions involved. Same as REL 4543.

4603 (3 hours)**Kierkegaard**

Close study of the major pseudonymous works of Kierkegaard, with special attention to "aesthetic," "ethical," and "religious" modes of life, the nature of paradox, love, anxiety, despair, faith, "the moment," and grace. Same as REL 4603.

4863 (3 hours)**Special Topics**

Prerequisite: permission of instructor.

4973 (3 hours)**Senior Project**

Religion

The study of religion is in the tradition of the liberal arts, and the program in religion at The University of Tulsa stands among the other humanistic disciplines. The course of study encourages a critical approach to religious texts and traditions, emphasizing literary, historical, philosophical, theological, and moral inquiries. Course offerings are designed to expose students to the variety of religious languages, literatures and modes of inquiry. Courses are taught in the following curriculum areas: the Bible; early Christian thought; medieval Christian and Jewish thought; studies in Catholicism, Protestantism and Judaism; ethics and society; church-state relations; and philosophy and religion. Like other degree programs in the humanities, the Bachelor of Arts in religion cultivates the habits of mind one needs in order to think and write with care and precision, and prepares one for graduate and professional studies.

Religion Learning Objectives

- To develop a rich understanding of theological and religious thinking, language, and literature in the West;
- To teach students to be attentive to the historical context of theology and religious belief and practice;
- To cultivate skills of critical interpretation and analysis of texts in written and oral presentation; and
- To prepare students for future studies, graduate or professional.

Religion Major Requirements

To complete a major in religion at The University of Tulsa, the student must complete 30 hours of coursework. Two-thirds of these, or 21 hours, are to be taken at the 3000-4000 level. Students are required to take two interdisciplinary courses: PHIL/REL 1453, The Great Conversation I: Ancient and Medieval, and PHIL/REL 2453, The Great Conversation II: Modern and Contemporary. Religion students must also take one course each in the curriculum areas of Bible and literature, philosophical theology, and Western theology, ethics and society.

Minor in Religion

A minor in religion may be an attractive option for students pursuing a variety of programs. Twelve semester hours are required with at least half of the course work at the 3000-4000 level.

Phillips Graduate Seminary

Junior and senior students majoring in religion may petition the faculty of religion for the option of taking particular courses offered at Phillips Graduate Seminary. The Seminary and the department maintain a reciprocal arrangement.

Religion (REL)

1003 (3 hours) Block 2

Explaining Religion

Religious commitment explained by insiders and outsiders, by those who believe and by those who do not. Topics include God and the gods, myth, ritual, conversion, sacrifice, mystical experience, scripture, magic, defilement and death.

1453 (3 hours) Block 2

The Great Conversation I: Ancient and Medieval

Introduction to ancient and medieval thought about the origins of the cosmos and human life, the nature of God (or the gods), the relationship between human and divine spheres, and the foundations and limits of knowledge. Required for the religion major. Same as PHIL 1453.

2013 (3 hours) Block 1

Introduction to the Hebrew Bible

Theological, cultural, geographic, and literary features of the Hebrew Bible (Old Testament). Inquiry into characterization, internal structure, parallels between passages, story, and relation of story to theology.

2023 (3 hours) Block 1

The New Testament as Literature

The story of Jesus' life as it appears in the canonical gospels: the messianic gospel of Matthew; the action-centered gospel of Mark; Luke/Acts, which sees Jesus' life as beginning a new era and fulfilling an old one; and the gospel writer John's story of the divine Son of God.

2113 (3 hours) Block 1

Roman Catholicism

An overview of Roman Catholicism, its worldview, history, rituals, ethics, and contemporary trends.

2203 (3 hours) Block 2

Jesus: Traditional and Contemporary Perspectives

New Testament, traditional, contemporary, and comparative religious perspectives on Jesus of Nazareth.

2333 (3 hours) Block 2

Christian Ethics

The moral reflections of Christians in America after the demise of cultural Protestantism. Topics include biblical origins, perspectives from the early church and the Reformation, secular alternatives, and the diversity of theological reflection among contemporary Christians.

2343 (3 hours) Block 2

Christian Faith and Thought

Introduction to the study of the Christian faith as a major world religion, and critical examination of the heart of the Christian tradition, its doctrines and beliefs.

2383 (3 hours)

Religion and Science

A survey of religious issues that have arisen through the interaction between western science and religion. Topics include cosmology, evolution, and technology.

2453 (3 hours) Block 2

The Great Conversation II: Modern and Contemporary

An examination of major figures in the break-off of philosophy from theology in the modern era. Consideration of the Reformation background of modern thought, the challenge of scientific rationalism to religion, and the effort to conceive the moral and political foundations of society in wholly secular terms. Required for the religion major. Same as PHIL 2453.

2503 (3 hours) Block 1

God and Human Suffering

The attempt to make sense of moral and natural evil given the theological commitments of classical monotheism.

2583 (3 hours) Block 2

Confronting the Holocaust: Questions of Life and Faith

The impact of the Holocaust on religious people, particularly Jews and Christians, as they seek to bring the resources of their traditions to bear on the ethical and spiritual demands of the late 20th century.

3253 (3 hours)**Wisdom Literature**

The background ideas, and literary problems of the wisdom literature of the Bible.

3263 (3 hours)**Religion and Morality from Kant to Nietzsche**

Major themes and figures in 18th- and 19th-century moral philosophy and theology, with attention to the Enlightenment's effort to make secular sense of the moral world and to critics of this effort, both secular and theological. Same as PHIL 3263.

3273 (3 hours)**The Wall of Separation: Church-State Relations**

An introduction to issues of church and state in American law.

3283 (3 hours)**Topics in Philosophy and Religion**

A consideration of religious themes in philosophy and philosophical questions in religious thought and practice. Same as PHIL 3283.

3313 (3 hours)**The Sociology of Religion**

Classical and contemporary sociology of religion, with attention to individual religiosity and patterns of religious institutions and organizations. Topics include the social-psychological dimensions of religiosity, church, sect, and cult development, and religion's relationship to other social and cultural institutions and organizations.

3363 (3 hours)**Introduction to Early Christian Thought**

Survey of the first four centuries of Christianity after the New Testament period. Topics include the development of Christian doctrines, institutions, and movements. Same as PHIL 3363.

3383 (3 hours)**Protestant Reformation**

Survey of the religious issues at stake in the reformation and the historical and political context in which these issues were developed. Same as PHIL 3383.

3443 (3 hours)**Magic, Witchcraft, and Religion**

Magic, witchcraft, and religion from a cross-cultural perspective, with emphasis on beliefs and practices of non-Western peoples. Topics include shamanism, sorcery, ritual and symbol, rites of passage, and cult movements. Emphasis on the diversity of beliefs and practices and their possible functions in human societies. Prerequisite: ANTH 1063 or 2043, or permission of instructor. Same as ANTH 3443.

3503 (3 hours)**Paul and the Early Church**

Life and times of the Apostle Paul and the first Christian recipients of his letters. Major ecclesial and theological issues in Romans, Galatians, I-II Thessalonians, I-II Corinthians, and Ephesians.

3523 (3 hours)**Mystical Literature**

Classical works of Christian mystical literature from authors such as Dionysius the Areopagite, Augustine of Hippo, Teresa of Avila, John of the Cross, Julian of Norwich and Bernard of Clairvaux.

3573 (3 hours)**Seminar: Special Topics in Religion**

Various topics. Prerequisite: One previous course in religion or permission of instructor.

3993 (3 hours)**Independent Study****4023 (3 hours)****Philosophical Theology**

The theological character of certain aspects of contemporary philosophy and the philosophical significance of certain modern theological proposals. Same as PHIL 4023.

4033 (3 hours)**Legal and Political Theory of Thomas Aquinas**

A study of Thomas Aquinas's treatment of law and politics. Topics include the nature of practical reason, authority, types of law, and kinds of political regimes.

4043 (3 hours)**Augustine**

An introduction to the theology of Augustine of Hippo, with special attention to his moral and political writings. Same as PHIL 4243.

4053 (3 hours)**Three Catholic Thinkers**

A survey of Catholic thinkers - one from antiquity, one from the medieval period, and one from the modern or contemporary period – on a selected topic, e.g. faith, happiness, justice, ecclesiology.

4093 (3 hours)**The Council of Nicea**

An introduction to the history of the fourth-century debate among Christian bishops that produced the Nicene Creed, until now a core Christian statement of Trinitarian orthodoxy.

4163 (3 hours)**Philosophy of Natural Law and Natural Right**

An introduction to the Western natural law tradition. The course is grounded in a study of Thomas Aquinas on natural law, and proceeds to examine discussions by Hobbes, Locke, Kant, Fuller, and Hart. Same as PHIL 4163.

4203 (3 hours)**Resistance, Rebellion, and Death: The Ethics of Violence**

Moral and political inquiries into the just use of coercive force. Topics include pacifism, punishment, revolutionary violence, and the just war traditions, both secular and theological.

4213 (3 hours)**Aquinas on Virtue and Vice**

Aspects of Thomas Aquinas's moral theology. Topics include human action, the virtues, friendship, law, and grace.

4253 (3 hours)**Text and Meaning**

Interdisciplinary course on hermeneutics that examines how texts, contexts, and language communicate claims of meaning, value, and beauty. We will examine these issues through examples in art, religion, law, music, and literature. Same as PHIL 4253.

4333 (3 hours)**Jewish Philosophy and Revelation: Ancient and Medieval Approaches**

An exploration of philosophical reflection on the Hebrew scriptures in the ancient and

medieval periods, with emphasis on the rabbis of the Talmud and Maimonides. Prerequisite: One course in philosophy or religion, or permission of instructor. Same as PHIL 4333.

4473 (3 hours)**The Sacred Feminine**

An introduction to how various cultures have used the feminine mode and the pair, masculine-feminine, as ways to respond to ultimate reality. Materials from Taoism, Islam, Christianity, Hinduism, Judaism, prehistoric culture, and ancient Sumeria are considered in light of 1) the sacred body, 2) the sacred dance, and 3) sacred psychology. Same as WS 4473.

4483 (3 hours)**Toleration and Moral Diversity**

The moral ambiguities associated with tolerating what we deplore and coercing what we hate. Secular and theological perspectives.

4503 (3 hours)**Contemporary Christian Thought**

The historical roots and theological presuppositions of selected movements within contemporary Christian communities.

4543 (3 hours)**Philosophy of Religion**

Analysis of various religious stances and positions to understand the philosophical assumptions involved. Same as PHIL 4543.

4603 (3 hours)**Kierkegaard**

Close study of the major pseudonymous works of Kierkegaard, with special attention to “aesthetic,” “ethical,” and “religious” modes of life, the nature of paradox, love, anxiety, despair, faith, “the moment,” and grace. Same as PHIL 4603.

4863 (3 hours)**Special Topics**

Prerequisite: Permission of instructor.

4973 (3 hours)**Senior Project****4991, 4992, 4993 (1-3 hours)****Independent Readings**

Prerequisite: Permission of instructor.

Political Science

Chair

Michael A. Mosher

Professors

Jeffrey D. Hockett

Thomas A. Horne

Michael A. Mosher

Assistant Professors

Matthew Hindman

Gaurav Kampani

Affiliated Faculty

Denise Dutton

Associate Professors

Kalpana Misra

Ryan Saylor

There are myriad ways in which political ideas, political institutions, and political processes touch and mold our lives, but typically this dimension of society is little noticed and nearly invisible when things are going well or appear normal. However, when the world is in turmoil, in recession or depression, caught up in war or in need of new leaders, laws, and practices, politics makes itself felt. At this moment politics appears everywhere and intrudes upon everything. It emerges as the now-visible set of causes that structures and establishes the tone for our collective existence together.

We study political science not so much because it is a science. It is a science but in addition to that, it is a source for hints, suggestions, and direction that might begin to explain what politics has to do with the turmoil we feel around us. We look for insight into the ideas that have set the ideological agenda and for insight into the challenger ideas hidden in the long history of our societies. We are on the track of insight into the contingent facts of institutions and their development that could have turned out differently than they did, and which may someday change again, for good or for ill. We seek insight into the intersecting causes that frame conflict and cooperation, whether on the global or the local scale.

Turmoil exposes the background machinery that creates, sustains, or destroys arrangements of power and relationships of authority. It raises questions about what is possible in a given space of power. It shows us why political ideals depend for their realization on the times in which we live and how time both renews and erodes ideals and the practices in which they are embodied.

Even in normal times, political insight is useful. Scientific research itself is heavily indebted to the political structures that fund it and to the public opinion that supports funding. We need insight into how this works. A democratic society is a wonderful engine of dynamic innovation, but this very fact creates social and economic instabilities. For some, precious customs are constantly under challenge and politics provides insight into their conservation. For others, change is desired and analyses of power and authority will enable them to establish strategies for transformation. The liberties which the ideals of our society uphold require citizens who have studied their meaning and place, or else they will have no traction upon our actual lives.

As no career is untouched by politics, political science also makes a good second major and a good minor. For majors, political science is one of the grand entrances into law, government service, and teaching. It is also critical for anyone who expects to join a not-for-profit agency or a for-profit corporation that is impacted by domestic political processes or by international events.

Learning Objectives

- Students who complete the undergraduate program in political science will be able to evaluate political ideas, institutions and processes within states and in a global context.
- Students will have an in depth knowledge of at least one of the following subfields: American politics, international studies, and political and legal theory.
- Students will be able to demonstrate critical thinking skills and the ability to defend a thesis in written and oral format.

Students from the American politics subfield will be able to:

- Demonstrate substantial knowledge of current political and governmental structures and processes in the United States;
- Explain the development of American political institutions, as well as the social, cultural, and historical contexts in which they were formed; and
- Comprehend the history and meaning of American political ideas, being especially attentive to the ideological conflicts that have characterized our political history.

Students from the international studies subfield will be able to:

- Demonstrate a familiarity with the main theoretical perspectives that facilitate an understanding of politics within and among states;
- Recognize the patterns of interaction among actors of the global community and have an informed awareness of the structural, social, economic, and political factors that shape those interactions; and
- Understand in a comparative context the political structures, institutions, governing processes, and cultures of a diverse selection of developed and developing countries.

Students from the political and legal theory subfield will be able to:

- Demonstrate familiarity and engagement with the great thinkers and political ideas that have shaped the development of political life in the West for over 2500 years;
- Be aware of contemporary debates about recurrently contested political ideas, such as equality, liberty, virtue, tolerance, and justice; and
- Understand the major schools of constitutional/legal thought and interpretation.

Major Requirements for Bachelor of Arts in Political Science

The major consists of 30 hours (10 courses).

The lower division requirement is three 2000 level courses (9 hours), one in each subfield:

American politics:	POL 2053, Governing Ideas in America;
International studies:	Any 2000 level international studies course; and
Political and legal theory:	POL 2083, Western Political Thought I <i>or</i> POL 2093, Western Political Thought II.

The upper division requirement is seven 3000-4000 level courses (21 hours). This must include at least one course from each of the three subfields.

The capstone to the major is the senior project (a College requirement) and a thesis.

Minor in Political Science

A minor in political science consists in four courses of which at least two are at the 3000-4000 level.

The department encourages students to study abroad.

Internship credit can be arranged for work in the region or in Washington, D.C.

Political Science (POL)

American Politics

2053 (3 hours) Block 2

Governing Ideas in America

The ideas and social forces that have shaped major periods of political change in America and their impact on governing institutions and public policy.

2173 (3 hours) Block 2

Media and Politics

Examines the methods and consequences of various modes of political communication in American politics, and evaluates the ambivalent relationship between the media and political institutions.

3003 (3 hours)

Congress and the Presidency

The institutional development and evolving relationships that characterize the legislative and executive branches of American government.

3023 (3 hours)

Politics of the Judicial System

Examines the organization, function, and power of the judiciary in American politics. Begins by considering the degree to which

judges, especially those of the U.S. Supreme Court, play policymaking roles.

3033 (3 hours)

American Politics and Film

The purpose of this course is to consider the role popular American films have played in the creation, maintenance, and subversion of America's public myths. Same as FLM 3033.

3053 (3 hours)

American Foreign Policy

The process of formulating U.S. foreign policy, with emphasis on the roles of President and Congress and on the functioning of the Department of State and the National Security Council. Concludes with an analysis of the major global issues confronting America.

3203 (3 hours)

American Political Development

Introduces students to scholarship that melds the historical with the institutional, applied to understanding the evolving state/society relationship in American political life.

3213 (3 hours)**American Political Parties and Ideologies**

Examines the origins, evolution, and significance of political parties and ideologies in the American political system.

3223 (3 hours)**Politics of Administration**

Examines the role administrators play in formulating as well as implementing public policy. Considers how citizens in a limited democracy can control those who implement the law and, thereby, wield the power of the state.

3343 (3 hours)**Civil Liberties in the United States**

Legal scholarship and U.S. Supreme Court case law concerning the relationship of the individual to the government. Emphasis on the Bill of Rights and the provisions of the 14th amendment.

3423 (3 hours)**The Politics of Public Policy**

The processes and factors shaping the major policy options for managing the problems of an advanced industrial society.

International Studies**2023 (3 hours) Block 2****European Politics**

Introduces the parliamentary governments of the developed economies of Western Europe. Treats the rise and fall of twentieth century fascism and communism as backdrop to the democratic experiments now going on in the European Union and in the post-communist transition economies of Central Europe.

2033 (3 hours) Block 2**World Politics in the 21st Century**

Overview of the main theoretical perspectives that contribute to the understanding of world politics. Concrete case studies of global and regional conflict (Cold War, Israeli-Palestinian Dispute), transnational actors (international terrorist groups, MNCs, NGOs, and IGOs), international political economy and institutions, environmental issues and management.

Environmental and regulatory policies are stressed.

3463 (3 hours)**Constitutional Law**

Legal scholarship and U.S. Supreme Court case law concerning our system of separated and divided powers. Begins with an examination of American jurisprudence and theories of judicial review.

4073 (3 hours)**The American Presidency**

Examines the foundations of presidential power, traces the historical development of the institution, applies and evaluates various scholarly approaches to understanding the American presidency.

4093 (3 hours)**American National Security Policy**

Analysis of the formulation and conduct of the over-all defense and security policy of the United States, with special attention to defense budgeting and to the intelligence community. Consideration of America's security interests in major regions of the world.

2043 (3 hours) Block 2**Politics and Culture of China**

China's political culture, ideology, and institutions in the 20th century. Emphasis on the importance of the 1949 Revolution in contemporary China.

2103 (3 hours) Block 2**Global Threats to American Security**

The international security environment in the post-Cold War world. Conditions (such as failed states, Islamic extremism, remnants of Cold War rivalries) that spawn threats to U.S. security. Considers approaches to counter-terrorism, the control of weapons of mass destruction, environmental security, and protection of critical infrastructure against cyber-warfare.

2163 (3 hours) Block 2**International Politics in the Middle East and West Asia**

Brief introduction to culture, history, and geo-strategic significance of the region. Focus on developments since 1945, role of major actors (Iran, Israel, Iraq, Saudi Arabia, and Egypt), impact of Cold War, Israeli-Arab/Palestinian Dispute, Iranian Revolution, Gulf War, and Talibanization of Afghanistan on the Middle East, Central and South Asia.

2243 (3 hours) Block 2**Dictatorship and Democracy**

This course examines a basic question of political life: Why do democracies prevail in some countries and dictatorships in others? The course asks three questions: (1) Why did democracies emerge across Europe in the late 19th and early 20th centuries? (2) Why did some of those regimes degenerate into dictatorships during the Interwar period? (3) Do the causal factors that account for these episodes in European history also explain regime dynamics in Africa, Latin America, and the Middle East?

2333 (3 hours) Block 2**Introduction to Comparative Politics**

Surveys the subfield of political science known as comparative politics, which focuses on the domestic politics of countries other than the United States. The course is a broad overview that examines the rise of the European states, the extension of the global economy to the non-European world, and politics in contemporary post-colonial societies.

2663 (3 hours) Block 2**Russia Today**

Review of the Soviet Union under Gorbachev and highlights of the rapid change in politics, economics, and culture of its major successor state, Russia. Same as HIST 2663.

3073 (3 hours)**Politics and Culture of India**

This course focuses on the broad facets of India's experience in implementing a constitutional democracy, promoting economic growth and development, ensuring social justice, enhancing national security,

and building a pan Indian identity in the context of a multi-religious, multi-linguistic, and multi-ethnic society.

3113 (3 hours)**Comparative Foreign Policy**

Introduction to core questions: Who are the actors in world affairs? What are the structures and forces that govern their interactions? What are the factors shaping foreign policy behavior and the techniques of foreign policy? Comparative analysis of the foreign policies of the United States, China, and India.

3183 (3 hours)**Issues in European Political Development**

Concentration on the history, politics, and culture of a single European country, e.g. France, or a group of European countries. Considers also the connections to the European Union, globalization, relations with the United States, changing regional identities, and evolving norms.

3263 (3 hours)**African Politics**

This course offers a broad survey of African politics. Specifically, it investigates: the causes and effects of corruption in many African countries; African state building trajectories; efforts to achieve democracy throughout Africa; why transformative economic development has been elusive; why ethnicity has proven to be a salient identity for political mobilization; and the AIDS epidemic present in parts of the continent.

3273 (3 hours)**Chinese Politics**

This course focuses on the evolution of the Chinese political system since 1949. It analyzes the nature and causes of the Communist Revolution, the process and problems of socialist transformation, and the social, political, and economic changes that have occurred in the post-Mao period.

3303 (3 hours)**State Building and Political Development**

The rise of the modern, sovereign state is one of the most important political developments in the past 500 years. The modern state has reordered the way territory

is claimed; military power is organized; economic activity is regulated; and individuals conceive of their identities. To better understand the modern state, we will investigate how modern states developed initially in Western Europe and how state building trajectories have differed in Latin America, Africa, and East Asia.

3353 (3 hours)

Politics and Culture of Japan

The cultural experience of the Japanese in war, economic prosperity, and political stalemate as revealed in texts and film. Considers Japan's developmental state, its foreign relations, its status as the no. 2 economic power, and its role in Asia and the world.

3923 (3 hours)

Politics of Terrorism and Revolution

The history of and theories about the uses of and responses to political violence in the form of terrorism, coups, and revolutions. Concludes with case studies of 20th - 21st century revolutions.

4023 (3 hours)

Russian Foreign Policy

The foreign policy of the Russian Federation, against the background of the Tsarist and Soviet periods. Special attention to the processes by which foreign policy decisions are made and the role of ideas in shaping policy.

Political and Legal Theory

2073 (3 hours) Block 2

Law and Society

Introduces the study of law and its relation to other social institutions and processes. Examination of the character and functioning of the American legal system.

2083 (3 hours) Block 2

Western Political Thought I

The political theory of pagan antiquity in Greece and Rome, focusing on Plato and Aristotle along with other writers. Attention to the role of Christianity in the evolution of Western political ideas. Same as PHIL 2083.

4043 (3 hours)

Women's Movements in Asia

Focus on the specific experiences of women in China, India, and Iran. Overview of the importance of religion and custom in defining the roles and identities of women in traditional patriarchies. Cross-cultural analysis of social and political movements that have democratized gender relations and altered women's rights and entitlements. Same as WS 4043.

4053 (3 hours)

Politics and Culture of Russia

The ideology, political and social structures, and policies of Russia are examined in the context of the Communist revolution and imperial collapse and the subsequent breakup of the Soviet Union.

4083 (3 hours)

The Politics of Natural Resource Wealth

A "resource curse" arguably plagues countries with abundant natural resource wealth. These negative consequences include low levels of economic development; feeble institutional structures; authoritarian regimes; and political instability and civil war. This course seeks to understand if a resource curse indeed exists.

4503 (3 hours)

Topics in International Studies

Exploration in depth of an issue in contemporary international relations or comparative politics. Topics vary.

2093 (3 hours) Block 2

Western Political Thought II

How Western modernity arose in 16th-19th centuries. Pursues changes in the idea of the individual and of the political community from the Renaissance to the Enlightenment and from the democratic revolutions to the rise of industrial societies. Same as PHIL 2093.

2153 (3 hours) Block 1

Women and Democracy on Film

Examines how democracy affects questions of authority and freedom that arise between women and men, as interpreted through film

and the classics of political thought. Same as WS 2153/FLM 2163.

3043 (3 hours)

American Political Thought

Political theories from the Revolutionary, Civil War, Progressive, New Deal, and contemporary periods are examined in their institutional, cultural, and social contexts.

3143 (3 hours)

Liberalism and Democracy

The evolution of liberal political philosophy in the 19th and 20th centuries, with emphasis on the tensions between liberty and equality in economic and political life. Same as PHIL 3243.

3173 (3 hours)

Conservative Critics of Mass Society

Writings critical of the philosophical basis of the modern, secular, and democratic state are examined. Conservative, romantic, and social scientific critics of mass democracy from the 18th through the 20th centuries provide the focus.

3243 (3 hours)

Environmentalism

Course explores the classics in the development of an environmental consciousness. Readings include works by Thoreau, Muir, Olmstead, Leopold, Carson, and Naess. Discussion of environmental public politics, focusing on costs and benefits, and externalities. Students will write policy papers, culminating in a presentation to the class.

Other

4591, 4592, 4593, 4594, 4595, 4596, 4597, 4598, 4599 (1-9 hours)

Internship

Juniors and seniors in internship programs under the direction and with the permission of the faculty.

4973 (3 hours)

Senior Project

The capstone to the major. Under the leadership of the seminar instructor, each

4033 (3 hours)

Seminar in the History of Political Thought

Consideration of a single author, the political thought of a particular time and place, or a theme or school of thought. For seniors majoring in history, political science, or philosophy, or pursuing a certificate in political philosophy. Same as HIST 4033, PHIL 4003.

4063 (3 hours)

Philosophy of Law

Major alternative theories of the nature of law and legal systems and possible synthesis, with emphasis on selected principal writings of such philosophers as Hart, Kelsen, R.M. Dworkin, Ross, Fuller, and Raz. Topics include the nature of norms, the relation between law and morality studies, and issues in theory of adjudication. Prerequisites: Upper division standing and one previous course in either philosophy or political theory. Same as PHIL 4063.

4513 (3 hours)

Topics in Public Affairs

Exploration in depth of issues in public affairs. Topics vary.

4523 (3 hours)

Topics in Law and Society

Joint student and faculty exploration of a substantive topic in contemporary law and society. The topic itself changes from one semester to another.

student will do a thesis under the supervision of one of the faculty.

4991, 4992, 4993, 4994, 4995, 4996, 4997, 4998, 4999 (1-9 hours)

Independent Study

Study abroad, independent reading, and research projects undertaken with permission of instructor.

Psychology

Chair

John McNulty

Professors

Michael Basso,

Clinical Director of Psychology

Allan Harkness

Elana Newman

Robert Tett,

Director of Industrial/Organizational
Psychology

Associate Professors

Bradley Brummel,

Director of Undergraduate Studies in
Psychology

Joanne Davis

John McNulty

Anupama Narayan

Jamie Rhudy

Assistant Professors

Lisa Cromer

David Fisher

Jennifer Ragsdale

Applied Assistant Professor

Joanna Shadlow

The aims of the undergraduate major in psychology are several:

- To develop a scientific understanding of human behavior and experience, to develop critical thinking skills;
- To learn how psychological knowledge is generated; and
- To apply psychological principles to the solution of human problems.

A student who completes the psychology curriculum receives a Bachelor of Arts or Bachelor of Science degree and preparation for a career in teaching, business, or law, as well as for graduate work in clinical, applied, or academic psychology. A psychology minor complements any line of study. Psychology courses also contribute to a major in organizational studies, a minor in early childhood intervention, and the major and minor in women's and gender studies. The Department of Psychology is also part of two interdisciplinary institutes: the Institute for Biochemical and Psychological Study of Individual Differences and The University of Tulsa Institute for Trauma, Adversity, and Justice. Psychology majors are encouraged to take part in activities beyond their formal course work such as participating in faculty research labs and institutes, engaging in independent research projects, departmental colloquia, the Psi Chi National Honor Society and service learning in community settings.

Learning Objectives

Students who complete the undergraduate program will demonstrate a knowledge base of major experimental findings and theoretical perspectives in psychology.

- Apply basic research methods, including research design, data analysis, and interpretation;
- Pursue post-baccalaureate education or enter the workforce; and
- Apply psychological principles to personal, social, organizational, and diversity issues (i.e., Identify appropriate applications of psychology in solving problems such as the origins and treatment of abnormal behavior, tests and measurement, and psychology-based interventions while recognizing the sociocultural contexts that influence individual differences in beliefs, values, and interactions.).

Requirements for the Psychology Major

The Bachelor of Arts and Bachelor of Science in psychology require a total of 36 credit hours in psychology, excluding those counted toward general curriculum requirements. The Bachelor of Arts requires the equivalent of four semesters of foreign language. The Bachelor of Science requires the equivalent of math through Calculus I and Calculus II or Statistics as required in the core curriculum. At least two-thirds of these credit hours must be 3000- or 4000-level courses, and no more than 39 hours in psychology may be counted toward the degree. Psychology majors must earn a minimum grade of B in the four foundation courses. A senior project is also required. Options that satisfy this requirement include completing a one- or two-semester research capstone, taking a fifth core class, completing a 5000-level graduate course, or participating in a psychology practicum experience. Given that the major allows flexibility, students are strongly urged to work with their advisors to select courses in a meaningful order and in relation to their own career plans. However, majors are encouraged to take foundation courses as early as possible.

Foundation Courses (12 hours)

- PSY 2023, Statistics for Behavioral Sciences
- PSY 2253, Foundations of Psychology
- PSY 3013, Research Methods
- PSY 3023, Assessment of Individual Differences

Core Courses (12 hours)

Choose four of the following courses:

- PSY 3033, Abnormal Psychology
- PSY 3053, Social Psychology
- PSY 3063, Developmental Psychology
- PSY 4003, Theories of Personality
- PSY 4013, History of Psychology
- PSY 4033, Cognitive Psychology
- PSY 4083, Biological Foundations of Behavior

Elective Courses (12 hours)

Choose four of the following courses:

- PSY 2053, Psychology of Work
- PSY 2083, Psychology of Trauma
- PSY 2143, Psychology of Advertising
- PSY 2273, Critical Thinking in Psychology
- PSY 3073, Industrial/Organizational Psychology
- PSY 3083, Clinical Psychology and Behavior Change
- PSY 4023, Psychology of Women
- PSY 4063, Psychology of Diversity
- PSY 4183, Topics in Psychology
- PSY 4193, Occupational Health Psychology
- PSY 4223, Health Psychology and Behavioral Medicine
- PSY/SOC/WS 4233, Responding to Violence
- PSY 4243, Journalism and Trauma
- PSY 4253, Evolutionary Psychology
- PSY 4871, 4872, 4873, Community Psychology Practicum

Total Hours..... 36

Minor Field for Psychology Majors

Twelve hours, six of which must be at the 3000 level or above, to be selected in consultation with psychology advisor.

Minor in Psychology

Twelve hours, six of which must be at the 3000 level or above, to be selected in consultation with psychology advisor.

Psychology (PSY)

2023 (3 hours)

Statistics for Behavioral Sciences

Provides a foundation in probability theory and statistical analysis of social science data.

Emphasis on what various statistics do, when they might be useful, and how to compute the results. A balance between procedural and conceptual understanding is presented.

2053 (3 hours) Block 2

Psychology of Work

Takes an in-depth approach to studying some of the major aspects of workplace psychology (e.g., selection of employees, assessment of individual differences, leadership, job attitudes), including an examination of the context in which these phenomena occur (e.g., legal issues and broader societal concerns such as fairness and equal access).

2083 (3 hours) Block 2

Psychology of Trauma

Examination of multidisciplinary research regarding the nature and prevalence of trauma, the history of trauma studies (including impact of the women's movement), theoretical models of the impact of trauma reactions, and the nature and course of the psychological impact of trauma. Same as WS 2083.

2143 (3 hours) Block 2

Psychology of Advertising

An examination of the psychological principles and theories applied to advertising and consumer behavior. Topics include: sensation and perception, learning and memory, motivation, personality, attitudes and persuasion, and decision-making.

2253 (3 hours)

Foundations of Psychology

Provides an overview of psychological theory and research on brain-behavior relations, motivation, learning, sensation and perception, memory, social behavior, intelligence, personality, and psychopathology.

2273 (3 hours) Block 2

Critical Thinking in Psychology

Application of critical thinking skills to distinguish psychological science from pseudoscience. Topics such as relativism versus realism, valid and invalid argument forms, scientific method, and the error prone

ways of human judgment are reviewed and then applied to current issues in psychology.

3013 (3 hours)

Research Methods

Introduction to principles of scientific research in the social sciences. All stages of the research process (from selecting of the topic to the presentation of results) are discussed.

Experience with experimental and correlational methods is provided. Prerequisite: PSY 2023.

3023 (3 hours)

Assessment of Individual Differences

Introduction to psychometric theory and practice, with application to the evaluation and use of tests in psychological assessment.

Experiential exercises provide basic skills in estimating and evaluating the reliability and validity of tests. Prerequisite: PSY 2023.

3033 (3 hours)

Abnormal Psychology

Overview of mental disorders with interpretation from dynamic, biological, and behavioral perspectives. Current research findings are presented as they apply to etiology, diagnosis, and treatment.

3053 (3 hours)

Social Psychology

Systematic overview of experimental studies of the effects of social interaction on attitudes and behavior.

3063 (3 hours)

Developmental Psychology

Examines significant issues in the study of developmental change in human behavior. Emphasizes understanding of how human beings grow physically, cognitively, emotionally, and socially during infancy, childhood, and adolescence. Prerequisite: PSY 2253.

3073 (3 hours)

Industrial/Organizational Psychology

An examination of psychological techniques, principles, and theories applied to the study of individuals and groups within organizations. Topics include personnel selection, evaluation, performance, training, motivation, and leadership.

3083 (3 hours)**Clinical Psychology and Behavior Change**

Examination of psychological principles as a basis for effective intervention in human problems. Introduction to the roles and functions of professional psychologists in mental health, medical, educational, and community settings; theories and techniques of psychological interviewing and evaluation; and development of change programs for child and adult behavior problems.

3991, 3992, 3993 (1-3 hours)**Independent Study**

Supervised research with a faculty member or directed readings on a topic selected by the student in conjunction with a faculty member.

4003 (3 hours)**Theories of Personality**

Examines the major issues and methodological approaches to the study of personality, with emphasis on the biological and social factors that contribute to enduring tendencies and change.

4013 (3 hours)**History of Psychology**

A survey and critical analysis of the philosophical, social, and scientific foundations of psychological thought from ancient times to the present.

4023 (3 hours)**Psychology of Women**

Introduces students to prominent theories and empirical evidence regarding the psychology of women with a focus on how gender influences development and behaviors from a variety of perspectives. Same as WS 4023.

4033 (3 hours)**Cognitive Psychology**

Examines cognitive processes involved in human perception, memory, thinking, and learning, with a focus on theories and research on human information processing.
Prerequisite: PSY 3013.

4063 (3 hours)**Psychology of Diversity**

Provides an overview of many of the psychological and social issues facing marginalized and majority groups in the United States. Applies psychological theories and principles to understand the role of culture in

human social behavior within a variety of contexts. Same as WS 4063.

4083, 4084 (3-4 hours)**Biological Foundations of Behavior**

Examines the structure and function of the nervous system and related systems, with emphasis on neuron conduction and transmission, sensation, and current theory and research on the biological correlates of behavior.

4183 (3 hours)**Topics in Psychology**

Examines contemporary themes and issues in psychological theory and research.

4193 (3 hours)**Occupational Health Psychology**

Reviews major theories and empirical research showing the effects of the work environment on employees' health and well-being. Emphasizes the practice of wellness promotion and prevention of negative health-related consequences within organizational settings.
Prerequisites: PSY 2023 and PSY 3013.

4223 (3 hours)**Health Psychology and Behavioral Medicine**

Provides a broad overview of theory, research and practice of health psychology and behavioral medicine emphasizing the prevention and modification of health comprising behaviors; psychological management of stress, pain and chronic/terminal illness; and effective interventions for specific health behaviors/disorders.

4233 (3 hours)**Responding to Violence**

Explores interpersonal, intercultural and historical violence in a comparative context in both the U.S. and Ghana. Addresses experiences of interpersonal violence, individual and community experiences of war and displacements, and the historical violence of the slave trade. As an interdisciplinary course, each area studied will focus on the individual/psychological level, the cultural and social-structural level, and will pay attention to issues of gender. Three week trip to Ghana is a required component of the course. Additional course fees are charged. Same as SOC/WS 4233.

4243 (3 hours)**Journalism and Trauma**

Course explores how news about trauma is gathered and transmitted in the service of helping citizens be knowledgeable critical consumers of news. Topics include information about traumatic events, accurate reporting of such topics, ethical treatment of sources and subjects of the news (e.g., victims and families), the impact of trauma coverage on news consumers, and the psychological effects of covering traumatic events upon news professionals.

4253 (3 hours)**Evolutionary Psychology**

Evolutionary psychology provides a broad understanding of human behavior in terms of survival, reproduction, and heritability. Topics include human food and shelter preferences, fears and phobias, male and female mating strategies, parenting strategies, cooperation and altruism, aggression and warfare, love and jealousy, and social dominance.

4771 (1 hour)**Clinical Psychology Practicum**

Provides practicum experience for undergraduate students of abnormal psychology. Course was developed to provide undergraduate students with exposure to individuals with serious, chronic mental illness. Corequisite: PSY 3083.

4871, 4872, 4873 (1-3 hours)**Community Psychology Practicum**

Supervised experience with community agencies or projects working to improve social well-being.

4973 (3 hours)**Senior Seminar**

Several options are available to meet the senior seminar requirement. Students need to work with their psychology advisors to choose the most appropriate option.

4991, 4992, 4993 (1-3 hours)**Independent Research**

Supervised research with a faculty member or directed readings on a topic selected by the student in conjunction with a faculty member.

Russian Studies

Director

Joseph Bradley, History

The University of Tulsa offers an interdisciplinary major in Russian studies. The Bachelor of Arts (B.A.) in Russian studies is comprised of 33 hours of course work in Russian language, literature and culture, history, and politics. The major provides students with a knowledge and understanding of historical and contemporary Russia, as well as with the ability to use the Russian language. Students have the opportunity to live and study for a summer, a semester, or a year in Russia.

The Woolslayer Room in Russian Studies is richly furnished with instructional materials, including Russian periodicals, maps, videos and DVDs, access to satellite broadcasts from Russia, and advanced computing and video projection systems. It serves as the centerpiece of innovative language instruction using an approach developed in Russia, as well as a resource for other courses in the program.

Study abroad programs in Saint Petersburg are offered through consortia with which The University of Tulsa is affiliated, including CIEE and AIFS. Courses taken through these programs are evaluated for transfer credit toward the major on a case-by-case basis by the director.

Course Requirements

Beginning Russian (RUSS 1004 and 1014) and Intermediate Russian (RUSS 2003 and 2013) or the equivalent are prerequisites to the major. Of the thirty-three required hours in the major, at least 21 hours must be at the upper-division level (3000 and 4000-level courses); these will normally include a minimum of 12 hours in advanced Russian. In addition, a 3-hour senior project on a Russia-related topic will be taken in one of the participating departments.

Course Offerings

ENGL 1123, Russian Poetry

ENGL 1133, Visual Confessions: Russian and European Cinema

HIST 2603, Russia and the West

HIST/POL 2663, Russia Today

HIST/FLM 3323, Politics and History in Soviet Film

HIST 3473, 20th-Century Europe

HIST 4413, Emergence of Modern Russia

HIST 4423, Russia: Reform and Revolution

HIST 4443, Soviet Russia

POL 4023, Russian Foreign Policy

POL 4053, Politics and Culture of Russia

RUSS 3003, Russian Conversation and Grammar

RUSS 3013, Russian Culture

RUSS 3023, Culture of the Soviet Union

RUSS 3033, Approaches to Russian Literature

RUSS 3043, 20th-Century Russian Literature

RUSS 3683, Advanced Grammar and Composition

RUSS 4113, Special Topics in Russian

RUSS 4886, Russian Workshop

RUSS 4991, Independent Study

Minor in Russian Studies

The minor in Russian studies requires a combination of Russian-language and non-language courses for a total of 12 credit hours. The courses must be selected from the list of Russian studies courses required for the major in Russian studies. At least 6 credit hours must be completed at the 3000-4000 level.

Sociology

Chair
Susan E. Chase

Professor
Susan E. Chase

Associate Professors
T. Jean Blocker
Lara Foley
Ronald Jepperson

Assistant Professor
Travis Lowe

People spend their entire lives in social groups and networks, ranging from the family to global systems. Like anthropologists, sociologists study how these groups and networks work. (Sociologists focus on industrial and post-industrial societies, while anthropologists are concerned with human culture in general. Psychologists, in contrast, study individuals.) Developing the ability to analyze society is a core component of anyone’s education and personal development, and thus the sociology major facilitates any career. In addition, sociology majors may design a specific program of study in preparation for graduate school, professional school (law, business, medicine), and for careers in social service, government, research, consulting, teaching, or business. Sociology courses also contribute to specialized certificates in African American and international studies and the women’s and gender studies major.

The Department of Sociology offers two curriculum options: Bachelor of Arts (B.A.) or Bachelor of Science (B.S.). Students should consult a sociology faculty advisor to select the appropriate program.

Learning Objectives

- Critical thinking (synthesize material; assess evidence; reason logically; distinguish between fact and opinion).
- Clear and effective writing and speaking.
- Core concepts (culture , social change, status, norm, socialization, identity, stratification, social structure, social institutions).
- Research methods (evaluate evidence; use quantitative and qualitative analysis; understand ethical issues).

Major Requirements

SOC 1033, The Sociological Imagination: An Introduction to Sociology.....	3
SOC 2023, Statistics for the Social Sciences (B.A. degree program) <i>or</i>	
STAT 2013, Introduction to Statistics (B.S. degree program).....	3
SOC 4113, Quantitative Methods of Sociological Research.....	3
SOC 4123, Qualitative Methods of Sociological Research	3
SOC 4193, Sociological Theory.....	3
Electives: 18 additional hours, with 15 hours at 3000-4000 level, to be chosen with faculty advisor’s approval	18
Total Hours.....	33

Minor Field for Sociology Majors

Students must choose, with the advisor's approval, at least 12 hours in a minor field, 6 of which must be at the 3000-4000 level.

Minor in Sociology

For a minor in sociology, students take 12 credit hours in sociology, 6 of which must be at the 3000-4000 level.

Sociology (SOC)

1033 (3 hours) Block 2

The Sociological Imagination: An Introduction to Sociology

Basic principles, concepts, theories, and research techniques. Topics include society and social change, social institutions, culture, and self-society relationships.

2023 (3 hours)

Statistics for the Social Sciences

Descriptive and inferential statistics. Frequency distributions, central tendency, variability, simple regression and correlation, and hypothesis testing. Models and interpretation of results. Prerequisite: MATH 1053 or two years of high school algebra. Credit will not be given for both this course and STAT 2013.

2123 (3 hours) Block 2

Crime, Justice, and Social Order

Comparative study of law, justice, and social order; models of crime and justice and the role of law in modern society. Same as WS 2123.

2133 (3 hours) Block 2

Inequality in American Society

The persisting and changing nature of inequality in American society. Focus on race, class, and gender relations, and on the institutions in which these relations are enacted such as education, family, and work. Same as WS 2133.

2973 (3 hours)

Sociology Seminar

Exploration of a special topic or substantive issue in a seminar format.

3013 (3 hours)

Political Sociology

How politics affects society, and how society affects politics. Topics include the relations of social structure, political parties, social movements, and social change in the U.S. and other contemporary societies. Prerequisite: SOC 1033 or permission of instructor.

3023 (3 hours)

Sociology of Work and Occupations

Changes in the occupational structure and labor movements in the U.S.; the relationship between work and systems of stratification (race, class, and gender); current employment patterns and trends, including the effects of

technology and globalization on U.S. labor markets; workers' everyday experiences, work identities, and the meanings of work.

Prerequisite: SOC 1033 or 2133 or permission of instructor. Same as WS 3013.

3053 (3 hours)

Socialization

Theory and research focusing on the development of the individual as a social being and lifelong participant in society. Historical and contemporary perspectives on the continuing interaction between the individual and society. Prerequisite: SOC 1033 or 2133 or permission of instructor. Same as WS 3053.

3063 (3 hours)

Sociology of Education

History of education in the U.S.; nature and purposes of education; laws and policies affecting education; reproduction of and challenges to social inequalities in education; curricular issues; contemporary controversies. Particular attention to the ways that race, class, and gender shape the schooling that different groups of students receive. Prerequisite: SOC 1033 or 2133, or permission of instructor. Same as WS 3063.

3083 (3 hours)

Urban Sociology

Sociological theories and research dealing with human behavior in urban environments, including the process of urbanization, implications of urbanization for social relationships, the ecological and social-psychological features of urban life, group conflicts in cities, and major issues in the future of cities. Prerequisite: SOC 1033 or permission of instructor.

3093 (3 hours)

Sociology of Poverty

Poverty and the poor within the broader context of general social inequality. Focuses on individualistic, cultural, and structural explanations of poverty and examines the policy implications deriving from each type of explanation. Prerequisite: SOC 1033 or permission of instructor. Same as WS 3093.

3113 (3 hours)**Population and Ecology**

Causes and consequences of human fertility, mortality, and migration; effects of population composition and change on individuals and institutions; major ecological and environmental issues; and current population and social policy issues.

3123 (3 hours)**Sociology of Family**

Particular emphasis on family life in the U.S.; changing definitions of “family”; changing social constructions of childhood, motherhood, and fatherhood; diversity among families; policies and politics surrounding family life; the relationship between broad structural forces and people’s everyday family experiences. Prerequisite: SOC 1033 or 2133 or permission of instructor. Same as WS 3123.

3133 (3 hours)**Social Movements**

Conditions underlying the development, success, and/or decline of social, political, and economic movements in the U.S. and other parts of the world. Studies include civil rights, women’s, environmental, peace, and religious movements. Prerequisite: SOC 1033 or permission of instructor. Same as WS 3133.

3143 (3 hours)**Environmental Sociology**

The relationships between social and cultural systems and biophysical environments. Examines evidence on which environmental crisis debates are based, theories of environmental destruction, historical and contemporary environmental movements, and predictions about ecosystem futures. Prerequisite: SOC 1033 or permission of instructor.

3163 (3 hours)**Society and Economy**

Interconnections of the economy and broader society. What is an economy? Historical development of market economies and capitalism; the uses of society wealth; variations in advanced market economies; socio-economic effects (on wealth, inequality, poverty, security, social integration); possible alternatives to current models. Prerequisites: SOC 1033, SOC 2133, ECON 1013, ECON

2013, or ECON 2023, or permission of instructor.

3243 (3 hours)**Sociology of Deviance**

Theories of deviant behavior; deviant behavior as related to social order, disorder, and change; analysis of the interplay between deviance and social control responses; the place of deviance in society; selected study of types of deviant behavior. Prerequisite: SOC 1033 or 2123 or permission of instructor.

3703 (3 hours)**Sociology of Health, Illness, and Medicine**

The distribution of illness, focusing on race, class, and gender; illness experience; social-historical development of the medical system in the United States; changing roles of health care providers; interactions between patients and health care providers; cross-cultural comparisons of health care systems; the political economy of health care. Prerequisite: SOC 1033 or permission of instructor.

3973 (3 hours)**Sociology Seminar**

Exploration of a special topic or substantive issue in a seminar format. Prerequisite: SOC 1033 or permission of instructor.

4013 (3 hours)**Sociology of Law**

Law as a formal system of social control and an instrument of policy-making. Relationship of social and legal change. Prerequisite: SOC 1033 or 2123 or permission of instructor.

4083 (3 hours)**Sociology and Philosophy of Belief**

What do humans think they know? What sorts of “folk theories” about knowing serve to guide and justify people’s claims? What appear to be main sources of beliefs? Are there any apparent limits to what people will claim to know? How do philosophers try to distinguish between more and less reasonable beliefs? Prerequisites: SOC 1033; SOC 2133; PHIL 1003; ANTH 1063 or ANTH 2043; or permission of instructor.

4093 (3 hours)**Social Trends**

Distinctive features of American society and American social change. For advanced undergraduates with substantial previous

coursework in the social sciences. Prerequisite: SOC 1033 or permission of instructor.

4113 (3 hours)

Quantitative Methods of Sociological Research

Techniques of gathering and analyzing quantitative data and its use in developing and testing sociological ideas. Recommended for those planning advanced study in sociology or allied fields or employment in research agencies, consulting, business, government, or social services. Prerequisite: SOC 2023.

4123 (3 hours)

Qualitative Methods of Sociological Research

Techniques of gathering, recording, and analyzing qualitative data. Emphasis on unstructured field observations, intensive interviewing, organized field notes, and generating theory through analysis. Prerequisite: SOC 1033 or permission of instructor.

4153 (3 hours)

Women and Health

The changing role of women in the medical system as patients, practitioners, and health care providers; the politics of women's health care activism; inequality in the health care system; the relationship of various social institutions (family, religion, the economy, and the media) to women's health. Prerequisite: SOC 1033 or SOC 3703 or WS 2013 or permission of instructor. Same as WS 4153.

4163 (3 hours)

Sociology of Bodies

Examines social forces that shape human bodies. Explores how people use their bodies to perform identities, ways bodies are subject to regulations, surveillance and control, and ways that people use their bodies to resist cultural mandates about how bodies are supposed to look or behave. Prerequisite: SOC 1033. Same as WS 4163.

4193 (3 hours)

Sociological Theory

An examination of the core ideas of sociology, including their interconnections and central applications. Prerequisite: SOC 1033 or permission of instructor.

4233 (3 hours)

Responding to Violence

Explores interpersonal, intercultural and historical violence in a comparative context in both the U.S. and Ghana. Addresses experiences of interpersonal violence, individual and community experiences of war and displacements, and the historical violence of the slave trade. As an interdisciplinary course, each area studied will focus on the individual/psychological level, the cultural and social-structural level, and will pay attention to issues of gender. Three week trip to Ghana is a required component of the course. Additional course fees are charged. Same as PSY 4233, WS 4233.

4593 (3 hours)

Internship

Ten to twelve hours per week of observation and work in a social service, educational, or governmental organization, as well as academic analysis of that experience and organization. Supervision by a professional in that organization and a TU faculty member. Requires student initiative, maturity, responsibility, and professionalism. Prerequisites: SOC 1033 plus nine hours of sociology course work at The University of Tulsa.

4823 (3 hours)

Globalization

The 20th century represented a massive extension of the structures of communication and control across the globe. To what degree has this globalization occurred, with reference to economics, governance, and culture? How far is it likely to go? Can we begin to sort out its benefits and costs? Prerequisite: SOC 1033, other social science courses, or permission of instructor.

4863 (3 hours)

Special Topics in Sociology

Exploration and analysis of a special theoretical or substantive issue in a seminar format. Topics vary. Prerequisite: SOC 1033 or permission of instructor.

4973 (3 hours)

Senior Seminar

4991, 4992, 4993 (1-3 hours)
Independent Study

Speech

Requirements for certification in speech/drama/debate (double major in theatre and secondary education) include completion of the following:

1. The Tulsa curriculum
2. The major in theatre (described under Department of Theatre on page 236 of this *Bulletin*.)
3. The following professional education sequence:
 - EDUC 1101, Introduction to Education
 - EDUC 2103, Foundations of Education
 - EDUC 3171, Educational Technology for Instruction
 - EDUC 3713, Child and Adolescent Development and Learning
 - EDUC 3733, Measurement and Evaluation
 - EDUC 4013, Education of the Exceptional Child
 - EDUC 4214, Teaching Methods for Middle and Secondary Schools
 - EDUC 4626, Student Teaching in Middle School
 - EDUC 4636, Student Teaching in Senior High School
 - EDUC 4971, Seminar in Student Teaching
4. The following courses should be taken as electives or as part of major, minor, or block course requirements:
 - COM 3473, Video Production: Studio *or*
 - COM 3573, Video Production: Location *or* demonstrate competency by portfolio
 - SP/THEA 2083, Debate *or* demonstrate competency by portfolio
 - SP 2113, Public Speaking
 - SP/THEA 1023, Vocal Usage for the Professions *or*
 - SP/THEA 2163, Oral Interpretation *or* demonstrate competency by portfolio
 - THEA 2202, Voice and Movement I
 - THEA 3043, Modern Theatre History and Literature *or*
 - THEA 3023, The Classical Theatre
 - THEA 4333, Directing I
5. Demonstration by portfolio of active participation in University student theatre organizations, assisting in production of performances and/or workshops.

The theatre and speech (THEA/SP) courses listed below are required by the State of Oklahoma to fulfill the 40-hour specialization in speech and drama.

Speech (SP)

1023 (3 hours)

Vocal Uses for the Professions

Enhancement of vocal health and usage for professions requiring a significant amount of oral presentation: breath support, reduction of “stage fright,” improved vocal quality and resonance, release of tension and improved gestural language. Improvement of vocal usage in speaking, reading aloud and improvised settings through exercises, documentation of decision-making and performance. Same as THEA 1023.

2083 (3 hours)

Debate

Familiarizes the student and future classroom teacher with the fundamentals of debate-the format of competitive debate, the preparation, strategies, techniques and rules that inform and govern this field of study. Same as THEA 2083.

2113 (3 hours) Block 1

Public Speaking

Prepares student for the demands of various speaking situations. Guided preparation and practical application of messages for public communication. Addresses personal and professional speaking, small group communication, listening skills, and message organization and adaptation.

2163 (3 hours)

Oral Interpretation

An alternative approach to the study, comprehension, and presentation of literature. Using the vocal, gestural, and analytical skills of the performer, students expand their understanding of fiction, poetry, and other literary texts and gain the self-confidence and skill necessary to interpret such texts before an audience. Same as THEA 2163.

Theatre

Chair

Susan Barrett

Professor

Lisa Wilson

Applied Professor

Susan Barrett, Design

Michael Wright, Creative Writing,
Theatre and Film

Assistant Professor

Steven Marzolf, Performance

Kimberly Powers, Design

Jessica Vokoun, Dance

Applied Assistant Professor

Machele Miller Dill, Musical Theatre

The Bachelor of Arts (B.A.) degree in theatre and The Bachelor of Arts (B.A.) degree in musical theatre offer a core curriculum supporting the collaborative process essential to the living theatre. In consultation with a department advisor, theatre students choose courses leading to a general education in theatre or an emphasis within the art form. The student may audition for acceptance into an area of specialization at the end of the spring semester of their freshman year. Areas of specialization are acting, musical theatre, design/technical theatre, stage management, playwriting, history and literature, and directing. The theatre student is expected to participate fully in the production aspects of the theatre program as the essential laboratory in which course work is integrated with practice.

The Bachelor of Arts (B.A.) degree in musical theatre does not require a minor area of study since this degree offers three distinct areas of concentration: acting, music, and dance.

The Department of Theatre offers minors in theatre, musical theatre, and dance. Permission of the program director is required for all minors. An audition to be admitted to a minor may also be required. Minors are required to audition and participate in production aspects of the program.

The Department of Theatre is located in Kendall Hall which houses two theatres, a CAD design lab, scenery and costume shops, and a dance studio. These facilities enable students to participate fully in traditional and experimental theatrical productions. The third venue of the Department of Theatre, the Lorton Performance Center, contains a state-of-the-art proscenium theatre where musicals, dance concerts, and plays are presented. The focus of the Department focus on an undergraduate program allows the serious theatre student multiple opportunities to be produced, both on the mainstage and in a student-driven studio setting. Students enjoy opportunities to direct, to act in major roles, to stage manage, and to design and produce original works.

The film studies program, described on page XX of this *Bulletin*, provides additional opportunities in performance, writing, and design.

Non-majors are also encouraged to participate in theatre productions and to take theatre courses. However, priority for placement is given to majors and minors and space is limited in certain classes.

Theatre and Musical Theatre Mission Statement

- To provide exceptional theatre/musical theatre training, within the strong liberal arts emphasis of the Tulsa curriculum, delivered by an outstanding faculty of teaching-artists recognized for excellence as specialized theatre practitioners. The curriculum requires a core of broadly-based knowledge as well as the mastery of skills, theories, and practical and creative practices of theatre in the study of theatre as a fine and performing art and as a social document; and
- To provide opportunities for growth within the collaborative process of producing theatre and as individual artists/technicians/scholars through small classes, personal attention, mentoring, the development of oral, close-reading and writing skills, increased responsibility, and teamwork. Upon completion of study, the student will be prepared for entry into the profession, further specialized training, or graduate study.

Expected Learning Outcomes

Students who complete the undergraduate program in theatre will demonstrate

- Broadly-based core of knowledge of theatre as a fine and performing arts and a social document;
- Mastery of skills, and theoretical and creative practices;
- Skill in close-reading of texts expressed through effective oral presentation, in clear well-supported written documentation, and, where appropriate, in execution of performance or design choices;
- Knowledge of and respect for the teamwork and collaboration required in a successful production process;
- Growth as individual artists, technicians, collaborators, and scholars; and
- Preparation for graduate study or entry into the profession.

B.A. in Theatre Major Requirements (39 hours)

Theatre majors are required to audition and participate in production work by enrolling in THEA 1220 for seven semesters.

Required Core Courses (18 hours)

THEA 1220, Theatre Production Practicum (7 semesters on co-curricular transcript)

THEA 2333, Acting I

THEA 2341, Costume Technology

THEA 2351, Stage Technology I

THEA 2391, Stage Technology II

THEA 2541, Introduction to Stage Makeup

THEA 3011, Stage Management

THEA 3021, Stage Management Practicum

THEA 3023, The Classical Theatre

Two of the following courses:

THEA 3103, Lighting Design

THEA 3523, Scene Design: Background and Practice

THEA 3533, Costume Design

Electives (21 hours)

Following a successful audition or portfolio/interview at the end of their freshman year, theatre students choose 21 hours from among the three areas listed below. Students may pursue an emphasis in design/technical theatre or performance by taking all electives in a single area or discipline. Students interested in an emphasis in stage management, playwriting, or general studies in preparation for graduate programs in directing or choreography follow a prescribed combination of electives from all three areas.

Performance Area

THEA 1101, 2201, Tap I and II*
THEA 1401, 2401, Ballet I and II*
THEA 2111, 3101, Modern Dance I and II*
THEA 2211, 3211, Jazz Dance I and II*
THEA 2202, Voice and Movement I
THEA 3072, Choreography I*
THEA 3202, Voice and Movement II
THEA 3343, Acting II
THEA 3361, Musical Theatre Performance I Lab
THEA 3362, Musical Theatre Performance I
THEA 3442, Musical Theatre Dance Styles*
THEA 4013, Meisner Technique
THEA 4033, Diction and Dialects for the Stage
THEA 4201, Audition Techniques Lab
THEA 4202, Audition Techniques
THEA 4333, Directing I
THEA 4353, Styles of Acting
THEA 4433, Acting Shakespeare's Folio
THEA 4561, 4562, 4563, Special Topics in Theatre
THEA 4991, 4992, 4993, Independent Study

*No more than four hours of dance courses may count toward the degree in theatre.

Design/Technical Area

THEA 1243, History of Western Clothing and Costume
THEA 2362, Introduction to Scene Painting
THEA 3093, Portfolio/Rendering
THEA 3103, Lighting Design
THEA 3523, Scene Design: Background and Practice
THEA 3533, Costume Design
THEA 4022, 4023, Advanced Stage Management Practicum
THEA 4363, Advanced Scene Painting
THEA 4513, Advanced Lighting Design
THEA 4523, Advanced Scene Design
THEA 4533, Advanced Costume Design
THEA 4561, 4562, 4563, Special Topics in Theatre
THEA 4991, 4992, 4993, Independent Study

History/Literature Area

THEA 2013, Survey of Dance in History and Cultures
 THEA 2113, Period Styles and Design Motifs
 THEA 2173/FLM 2373, Survey of Modern Playwriting
 THEA 2213, A Cultural History of Theatre
 THEA 3053, Playwriting
 THEA 3063, Adaption to Stage and Screen
 THEA 3463, Musical Theatre History and Literature I
 THEA 3473, Musical Theatre History and Literature II
 THEA 4003, Playwriting Workshop
 THEA 4413, Contemporary Theatre and Drama
 THEA 4561, 4562, 4563, Special Topics in Theatre
 THEA 4973, Senior Seminar: Collaborative Process
 THEA 4991, 4992, 4993, Independent Study

Minor in Theatre (15 hours)

Students enrolling in a minor in theatre are required to take a core of 9 hours and must select an additional 6 hours of electives in consultation with a theatre advisor. Minors must meet all prerequisites for upper level courses. Minors are also required to audition and participate in production work by enrolling in THEA 1220 for four semesters.

Minor Required Core Courses (9 hours)

THEA 1220, Theatre Production Practicum (4 semesters on co-curricular transcript)
 THEA 2333, Acting I
 One of the following courses:
 THEA 3103, Lighting Design
 THEA 3523, Scene Design: Background and Practice
 THEA 3533, Costume Design

One of the following courses

THEA 2323, Survey of Dramatic Literature
 THEA 2383, Introduction to Scripting and Script Analysis
 THEA 3023, The Classical Theatre
 THEA 3043, Modern Theatre History and Literature
 THEA 3463, Musical Theatre History and Literature I
 THEA 3473, Musical Theater History and Literature II

Minor Electives (6 hours)

6 hours of upper level courses in theatre chosen in consultation with a theatre advisor

Musical Theatre

Program Director
Machele Miller Dill

B.A. in Musical Theatre

The Bachelor of Arts in musical theatre is intended for the student who has strong ability in music and theatre. The program allows the student to take advantage of wide-ranging liberal arts studies while focusing on an interdisciplinary emphasis in both music and theatre. Students who choose this major will not need a minor area of study since the degree offers two distinct areas of concentration. Musical theatre majors are also required to audition and participate in production work by enrolling in THEA 1220 for seven semesters.

Major Requirements (59 hours)

Music

- MUS 1003, Introduction to Music *or* MUS 1013, Music Theory I
- MUS 1141, Class Piano I *or* MUS 0581, Studio Piano
- MUS 1151, Class Piano II *or* MUS 0581, Studio Piano
- THEA 0171, Voice for Musical Theatre (8 semesters)
- THEA 1011, Introduction to Vocal Style I
- THEA 1021, Introduction to Vocal Style II
- THEA 3161, Musical Theatre Workshop

Total Hours..... 16

Theatre/Dance/Musical Theatre

Dance Electives

- Nine hours selected from the following and including at least one course each in ballet, jazz, modern dance and tap:
 - THEA 1101, 2201, Tap I and II
 - THEA 1401, 2401, Ballet I and II
 - THEA 2111, 3101, Modern Dance I and II
 - THEA 2211, 3211, Jazz Dance I and II
 - THEA 3031, Advanced Dance Repertory
 - THEA 3072, Choreography I
 - THEA 3442, Musical Theatre Dance Styles
 - THEA 4861, 4862, Special Topics in Dance
- THEA 1220, Theatre Production Practicum (7 semester on co-curricular transcripts)
- THEA 2202, Voice and Movement I
- THEA 2333, Acting I
- THEA 2341, Costume Technology *or* THEA 2351, Stage Technology
- THEA 3011, Stage Management
- THEA 3361, Musical Theatre Performance I Lab
- THEA 3362, Musical Theatre Performance I
- THEA 3463, Musical Theatre History and Literature I
- THEA 3473, Musical Theatre History and Literature II

Two of the following courses: THEA 3103, Lighting Design THEA 3523, Scene Design: Background and Practice THEA 3533, Costume Design THEA 4373, Musical Theatre Performance II	
Total Hours.....	34

Electives

Nine hours of upper level courses in theatre chosen in consultation with program director.	
Total Hours.....	9

Minor in Musical Theatre

Students who wish to pursue a minor in musical theatre must show a strong ability in music and theatre. Permission of the program director is required; an audition to be admitted to the minor may also be required. Minors are also required to audition and participate in production work by enrolling in THEA 1220, for four semesters.

Minor Required Core Courses

THEA 1220, Production Practicum (4 semesters on co-curricular transcript)	
THEA 0171, Voice for Musical Theatre(2 semesters)	
THEA 3361, Musical Theatre Performance I Lab	
THEA 3362, Musical Theatre Performance I	
THEA 4373, Musical Theatre Performance II	
THEA 3463, Musical Theatre History and Literature I <i>or</i>	
THEA 3473, Musical Theatre History and Literature II	
Two of the following courses: THEA 1401, Ballet I, THEA 2111, Modern Dance I THEA 2211, Jazz Dance I (Level II or III dance courses may be substituted based on proficiency.)	
Electives Three hours of upper level theatre courses chosen in consultation with musical theatre program director	
Total Hours.....	16

Minor in Dance

Students who wish to pursue a dance minor should demonstrate a strong ability in dance. Permission of the dance minor coordinator is required; an audition may also be required.

Required Courses (6 hours)

- Two of the following courses
- THEA 2201, Tap II
- THEA 3101, Modern Dance II
- THEA 3211, Jazz Dance II
- THEA 3031, Advanced Dance Repertory
- THEA 3072, Choreography I (2 semesters)
- THEA 3401, Ballet III

Electives: (6 hours chosen from the following)

- THEA 1101, Tap I
- THEA 1441, Dance Strengthening and Conditioning
- THEA 2013, Survey of Dance in History and Cultures
- THEA 2111, Modern Dance I
- THEA 2201, Tap II
- THEA 2211, Jazz Dance I
- THEA 2401, Ballet II
- THEA 3101, Modern Dance II
- THEA 3442, Musical Theatre Dance Styles
- THEA 4861, 4862, Special Topics in Dance
- ATRG 2023, Human Anatomy and Kinesiology

Total Hours..... 12

Theatre (THEA)

0171 (1 hour)

Voice for Musical Theatre

Private vocal instruction focusing on proper vocal technique, support, posture, and the health and hygiene of the voice. Different genres of musical theatre will be introduced as the student progresses, beginning with the Golden Age and culminating in more modern forms of musical theatre such as rock and Sondheim. Musical theatre majors only.

1011 (1 hour)

Introduction to Vocal Style I

A brief introduction to musical theatre voice types, history, and performance styles. Musical theatre majors only.

1021 (1 hour)

Introduction to Vocal Style II

A continuation of THEA 1011 focusing on the fundamentals of sight singing and harmony singing as specifically applied to the musical theatre genre. Musical theatre majors only. Prerequisite: THEA 1011 and permission of instructor.

1013 (3 hours) Block 1

The Theatre Experience

Introduction to the discipline and art of the theatre, including study of the creative process in the classroom and within the actual theatre environment. The history and literature of the drama are broadly explored, with emphasis on acting, directing, design, and playwriting.

1023 (3 hours)

Vocal Usage for the Professions

Enhancement of vocal health and usage for professions requiring a significant amount of oral presentation: breath support, reduction of "stage fright," improved vocal quality and resonance, release of tension and improved gestural language. Improvement of vocal usage in speaking, reading aloud and improvised settings through exercises, documentation of decision-making and performance. Same as SP 1023.

1043 (3 hours)

20th-Century American Women

Playwrights

An introduction to representative plays of American women playwrights of this century. Emphasis on literary and theatrical merit and

the perspectives women playwrights bring to larger issues of American society. Same as WS 1043.

1053 (3 hours) Block 1

Improvisation

Designed to alleviate self-consciousness, inhibitions, and stage fright by instilling in the student a sense of relaxation, confidence, and heightened awareness. Training to sharpen emotional and intellectual sensitivity; to stimulate powers of concentration, imagination, and observation; and to enhance creative potential and ability.

1063 (3 hours) Block 1

The Broadway Musical in Film

Examines Broadway musicals as films including musicals filmed live. The historical, musical, and literary aspects as well as musicals as social commentary will be explored.

1101 (1 hour)

Tap I

Introduction to basic musical theatre tap terminology and technique including a variety of time steps, turns and across-the-floor combinations. This is a performance class focusing on physical skills.

1220 (0 hours)

Theatre Production Practicum

Offers theatre and musical theatre majors and minors practical experience in all areas of production. Seven semesters are required for majors (four for minors and transfer students) with a rotation of assignments through different aspects of a show such as costumes, lighting, properties, scenery, box office, or sound.

1223 (3 hours) Block 1

Theatre Graphics

From idea to three dimensions, students develop the modes of visual communication through this studio introduction to drafting, rendering, and model-building skills. Additional emphasis on conceptualization of a text through written and visual means.

1243 (3 hours) Block 2**History of Western Clothing and Costume**

Survey of Western clothing exploring how fashion has responded to the evolution of social history and established a working knowledge and vocabulary of key styles that identify historical periods.

1401 (1 hour)**Ballet I**

Introduction to ballet technique including terminology, barre work, center floor work and introduction to adagio and allegro as well as proper execution of ballet turns and traveling patterns. This is a performance class focusing on physical skills.

1441 (1 hour)**Dance Strengthening and Conditioning**

Students will learn exercises for strengthening and increasing flexibility specifically needed for dance technique with focus on legs, turn-out, torso, arms, back, pelvis, abdominals and feet, plus increased cardio-vascular capability. Also explores the proper use of free weights and bands.

2013 (3 hours) Block 2**Survey of Dance in History and Cultures**

Examines the forms and purposes of dance in world cultures throughout history: dance as ritual, social function, and art form. Students will analyze how political, social, and cultural movements have influenced its development. Classes will be structured as lecture-discussions; videos, readings, and physical activities will facilitate learning.

2033 (3 hours) Block 2**Housewives to Harridans: Images of Women in Drama**

Examination of images of women in plays, the work of female playwrights, and emerging feminist theories used in dramatic criticism. Same as WS 2043.

2083 (3 hours)**Debate**

Familiarizes the student and future classroom teacher with the fundamentals of debate-the format of competitive debate, the preparation, strategies, techniques and rules that inform and govern this field of study. Same as SP 2083.

2093 (3 hours) Block 1**The Art of Acting**

Experimental investigation of the choices implicit in bringing a dramatic character to life on the stage for the non-major. Students are introduced to basic theory, monologue, and the Stanislavski approach to the art form.

2111 (1 hour)**Modern Dance I**

Introduction to modern dance including terminology, floor work, torso and off balance studies, standing center floor work, falls and across-the-floor combinations. Special focus on proper alignment and balance. This is a performance class focusing on physical skills. Prerequisite: THEA 1401 or permission of instructor.

2113 (3 hours) Block 1**Period Styles and Design Motifs**

Survey of visual trends in historical architecture and interior design from the Greek through Victorian periods, exploring how culture creates style.

2133 (3 hours) Block 1**Creative Drama**

Using theories of American and British drama practitioners, provides basic skills needed to use creative drama as an art form and as a tool for integrated classroom learning. Students learn to teach using techniques such as questioning, narrative pantomime and group facilitating, improvisation, pantomime, cooperative learning, and story making.

2163 (3 hours)**Oral Interpretation**

An alternative approach to the study, comprehension, and presentation of literature. Using the vocal, gestural, and analytical skills of the performer, students expand their understanding of fiction, poetry, and other literary texts and gain the self-confidence and skill necessary to interpret such texts before an audience. Same as SP 2163.

2173 (3 hours) Block 1**Survey of Modern Playwriting**

Foundation course in contemporary plays from around the world. Students will investigate the nature and role of playwriting in various cultures through reading plays and additional materials. They will also undertake explorations

of playwriting through a series of exercises and short plays. Same as FLM 2373.

2201 (1 hour)

Tap II

Continuation of THEA 1101 with special focus on mastering a multitude of time steps, complex rhythmic patterns and complex across the floor turning patterns. This is a performance class focusing on physical skills. Prerequisite: THEA 1101 or permission of instructor.

2202 (2 hours)

Voice and Movement I

Theories in voice and body movement for performance. Includes work on vocal support and placement by freeing and neutralizing poor vocal and physical habits, establishing a warm-up regiment, and unlocking imagination. Physical applications of theories into voice and body using monologues, scenes, and other texts. Prerequisite: THEA 2333 or permission of instructor.

2211 (1 hour)

Jazz Dance I

Introduction to jazz terminology and technique including center floor work, isolations, turns, and across-the-floor combinations. This is a performance class focusing on physical skills. Prerequisite: THEA 1401 or permission of instructor.

2213 (3 hours) Block 2

A Cultural History of Theatre

Theatrical performance and dramatic literature are examined as social documents in order to provide insight into the thought, history, and sociality of selected cultures (Eastern and Western).

2323 (3 hours) Block 1

Survey of Dramatic Literature

Critical approaches to representative plays from the classical, modern, and contemporary periods of Western dramatic literature.

2333 (3 hours)

Acting I

Emphasis on developing an accessible, comprehensive, and personalized acting approach through an investigation of techniques developed by Konstantin Stanislavsky and Uta Hagen. Focus on partner connection, objectives, internal obstacles, and

given circumstances done through scene work. Theatre and musical theatre majors and minors only, or permission of instructor.

2341 (1 hour)

Costume Technology

Hands-on experience in the creation of costumes and related elements for theatrical productions. Training in patterning, hand and machine sewing, fabric dying, painting, and the creation of costume accessories.

2351 (1 hour)

Stage Technology I

Introduction to scenic construction practices with an interactive approach to the operation of a professional scene shop and the industry practices of scenic construction, as well as mechanical applications and the implementation of the equipment and system for light and projections for a theatrical show.

2362 (2 hours)

Introduction to Scene Painting

Studio introduction to techniques and application of processes used in theatrical scene painting. Lab fee for materials, brushes and paint. Prerequisite: THEA 1223 or permission of instructor.

2383 (3 hours) Block 1

Introduction to Scripting and Script Analysis

Investigation of the art and craft of script writers, directors, dramaturgs, and other professional artists who work with the process of bringing a script, whether from the canon or new, to production.

2391 (1 hour)

Stage Technology II

Interactive approach to sound reinforcement, equipment and practices. Introduction to Vectorworks CAD for the theatre.

2401 (1 hour)

Ballet II

A continuation of THEA 1401 with special focus on alignment, port de bras, and introduction to increased technical knowledge of adagio and allegro work. This is a performance class focusing on physical skills. Prerequisite: THEA 1401 or permission of instructor.

2523 (3 hours) Block 1**Contemporary Women Playwrights**

Course examines some of the more important plays written by women in the past 20 years. Plays will be studied as literature and as social documents. Same as WS 2523.

2541 (1 hour)**Introduction to Stage Makeup**

Course designed for sophomore-level theatre students. Focusing on the basics of applying and designing stage makeup: shadow and highlights, chiaroscuro, altering the face through makeup – corrective, age, character. Basic design of character makeup, research, analysis and application.

2633 (3 hours) Block 1**Contemporary Plays for Stage and Screen**

In-depth investigation of the comparisons and contrasts between writing for stage vs. screen. Focuses on a range of styles, approaches, and genres as they relate to representations of American life and culture. Same as FLM 2633.

3011 (1 hours)**Stage Management**

The study of interpersonal skills in people management through the rehearsal and performance processes, theatre decorum, including union regulations for the professional and artistic insight into the role of the stage manager.

3021 (1 hour)**Stage Management Practicum**

Serve as primary or assistant stage manager for main stage and laboratory productions within the department, including producing a prompt book. Prerequisite: THEA 3011 or permission of instructor. May be repeated for credit.

3023 (3 hours)**The Classical Theatre**

Close study of the Greek, Roman and Medieval theatre. Emphasis on dramatic theory, theatrical practice (the physical theatre, playwrighting, acting), culture, and literature of these periods.

3031 (1 hour)**Advanced Dance Repertory**

A pre-professional level repertoire class, conducted as a dance company. Choreographic works of various styles will be taught during the classes and rehearsed to performance level.

Students will develop performative qualities and skills. Rehearsed work will be performed at final showing. Prerequisites: THEA 2111 and 2401, or consent of instructor.

3043 (3 hours)**Modern Theatre History and Literature**

Western theatre and drama from 1850-1950. Focuses on Realist/Naturalist movement and its theatrical alternatives (the so-called avant garde) during one of the theatre's richest, most innovative periods.

3053 (3 hours)**Playwriting**

An examination of the art of writing for the stage. Students examine the nature of theatrical expression through reading short plays; doing exercises that explore characterization, plot, structure, and style; and writing a progressive sequence of short plays. Same as FLM 3053.

3063 (3 hours)**Adaptation to Stage and Screen**

Focuses on artistic translation of a story or story essence from one form to another. Covers adaptation from non-theatrical forms to stage or film and from one theatrical form to another. Students will explore adaptation techniques through various exercises and write a short play or screenplay based on a short story. Same as FLM 3063.

3072 (2 hours)**Choreography I**

Introduction to the principles of choreography, with a focus on generating new movement and developing solo material. Improvisation and composition exercises investigate space, time, dynamics, form and structure. Students will explore various sources for inspiration, evaluate their creative process, and complete several choreographic assignments. Prerequisite: THEA 2111 or 2211 or 2401, or permission of instructor.

3093 (3 hours)**Portfolio/Rendering**

Advanced techniques of portfolio development and rendering in all areas of theatrical design through multi-media presentation styles including personal website development. Emphasis on projects and their presentation. Prerequisite: THEA 1223 and either THEA 3103 or 3523 or 3533, or permission of instructor.

3101 (1 hour)**Modern Dance II**

A continuation of THEA 2111 with special focus on increased proficiency in contemporary techniques, off-balance work, falls, turns, moving with momentum, and complex floor patterns, as well as the use of improvisational study. This is a performance class focusing on physical skills. Prerequisite: THEA 2111 or permission of instructor.

3103 (3 hours)**Lighting Design**

Emphasis on theory and practice of designing theatrical productions including electricity, instrumentation, color theory, control systems, drafting the design, and special effects. Prerequisite: THEA 2351 or permission of instructor. Same as FLM 3103.

3161 (1 hour)**Musical Theatre Workshop**

Emphasis on integrating singing, dancing and acting skills with more stylistically advanced material. Emphasis on solo and small ensemble technique. Prerequisite: Permission of instructor.

3202 (2 hours)**Voice and Movement II**

Further development of the work begun in THEA 2202. Emphasis on creating character through the application of breath and alignment work; creation of movement abstracts and physical actions. Prerequisite: THEA 2202 and 2333.

3211 (1 hour)**Jazz Dance II**

A continuation of THEA 2211 with special focus on jazz combinations, turns, layout techniques, kick patterns, and locomotor movement. This is a performance class focusing on physical skills. Prerequisite: THEA 2211 or permission of instructor.

3343 (3 hours)**Acting II**

Continuation of work begun in THEA 2333. In addition to revisiting Stanislavsky's technique to acting, emphasis on developing an ability to analyze a scene, play with tactic changes, and live moment to moment. Prerequisite: THEA 2333.

3361 (1 hour)**Musical Theatre Performance I Lab**

Companion lab to THEA 3362. Private vocal coaching instruction in style and the application of principles introduced in THEA 3362. Corequisite: THEA 3362 or permission of instructor.

3362 (2 hours)**Musical Theatre Performance I**

Acting theory and practice as applied to musical theatre. Emphasis is on solo work with exploration of ballad and uptempo pieces and songs as monologue. Prerequisite: THEA 2333 or permission of instructor. Corequisite: THEA 3361 or permission of instructor.

3401 (1 hour)**Ballet III**

A continuation of THEA 2401 with increased work at barre, mastery of ballet turns, allegro and adagio work. Special focus on learning Variations from well-known ballets by choreographers such as Marius Petipa and optional pointe barre. This is a performance class focusing on physical skills. Prerequisite: THEA 2401 or permission of instructor.

3411 (1 hour)**Modern Dance III**

Basic technique class in modern dance. Exploring ensemble and improvisational movement. Prerequisite: THEA 3101 or permission of instructor.

3442 (2 hours)**Musical Theatre Dance Styles**

An exploration of the various theatre dance styles of the 20th and 21st centuries. Students will learn musical theatre dance combinations using Broadway scores in the choreographic styles of the best-known Broadway choreographers such as De Mille, Robbins, Fosse and Bennett. Some research and writing are expected. Prerequisites: THEA 1101, 1401, and 2211.

3463 (3 hours)**Musical Theatre History and Literature I**

Development of musical theatre as an art form and its significance as a major American genre. Examination of musical scripts and scores, as well as librettists, lyricists, composers and significant productions. Focus is on the beginnings of Musical Theatre through the

early 1940's with emphasis on the cultural development and impact of the art form.

3473 (3 hours)

Musical Theatre History and Literature II

A continuation of THEA 3463 with a focus on the 1940's to the present. Special attention will be paid to the social upheaval of the 60's and 70's and its effect on musicals of the day.

Prerequisite: THEA 3463.

3523 (3 hours)

Scene Design: Background and Practice

The history and practice of scene design in theatre, including design projects, drafting, and color models. Prerequisite: THEA 2351 or permission of instructor.

3533 (3 hours)

Costume Design

Explores and employs the elements and principles of costume design in relation to the design processes used in the theatre. Includes a brief study of historical periods with specific use for theatrical production. Prerequisite: THEA 2341 or permission of instructor.

3993 (3 hours)

Independent Study in Dance

Open to dance minors only. In-depth research into particular dance history eras and the accompanying artists and parallel art movements of those eras. This is not a performance class. Students are expected to read, research, discuss and write on topics agreed upon with the instructor.

4003 (3 hours)

Playwriting Workshop

Examination of playwriting styles and methods from the latter half of the 20th century to present day. Students write a non-naturalistic full-length play, using a variety of approaches and techniques for creating and rewriting such a work for the stage. Same as FLM 4003.

4013 (3 hours)

Meisner Technique

Intensive study of the Sanford Meisner Technique of Acting. Special attention is given to partner and scene work with the class culmination in a public performance.

Prerequisite: THEA 3343 or permission of instructor.

4014 (4 hours)

Narrative Film Production I

Takes students on a step-by-step process from the inception of a short film idea to its realization as a completed work in a series of projects. Explores processes involved in creating and writing a screenplay, storyboarding and planning the film, shooting the film, and finalizing the project through editing, viewing, feedback, and reediting. Prerequisite: FLM 2013, COM 3473 or COM 3573 or permission of instructor. Same as FLM 4014.

4022, 4023 (2-3 hours)

Advanced Stage Management

Serve as primary stage manager for large mainstage, touring, or technically demanding productions within the department, including producing a prompt book. Prerequisites: THEA 3011 and 3021, or permission of instructor.

4024 (4 hours)

Narrative Film Production II

Takes students on a step-by-step process through working on films up to thirty minutes long. Focuses on critical professional tools such as storyboards, shooting schedules, working with collaborators, and editing in Final Cut Pro and/or Avid. Prerequisite: THEA/FLM 4014. Same as FLM 4024.

4033 (3 hours)

Diction and Dialects for the Stage

The phonetic alphabet will be introduced as the key to dialect mastery. Personal work on neutral American dialect will be coupled with diction exercises to aid the theatre student in the production of a clear, precise stage voice. Prerequisite: THEA 3343 or permission of instructor.

4201 (1 hour)

Audition Techniques Lab

Companion lab to THEA 4XX2. Coursework will include song preparation culminating in the presentation of a senior portfolio book with songs and monologues. Corequisite: THEA 4202.

4202 (2 hours)

Audition Techniques

Preparation for theatre and musical theatre students for regional/professional auditions. Character type, how to find material, and

present oneself professionally will be coupled with the presentation of cold readings, monologues, and songs in regional and/or professional auditions. Includes resume preparation and analysis of professional affiliations and the job market. Prerequisites: THEA 3343 or permission of instructor. Corequisite: THEA 4201.

4333 (3 hours)

Directing I

Mastering structural analysis of a play, and learning to communicate effectively with actors and designers concerning directorial interpretations. Prerequisites: Required core courses for theatre majors and THEA 4973, or permission of instructor. Same as FLM 4333.

4353 (3 hours)

Styles of Acting

Advanced level study and performance of classical and non-realistic contemporary literature such as Molière, Shakespeare, the Greeks, Beckett, Pinter. Emphasis on vocal and physical realization of characterization, historical re-search, period style of classical texts, and non-traditional acting exercises. Prerequisite: THEA 2333 and 3343, or permission of instructor.

4363 (3 hours)

Advanced Scene Painting

Development of creative problem-solving techniques used in theatrical scene painting. Emphasis on project management, matching artistic styles, treating different surfaces, and trompe l'oeil. Lab fee for materials, brushes, and paint. Prerequisite: THEA 2351 and 2362, or permission of instructor.

4373 (3 hours)

Musical Theatre Performance II

Further development of work begun in THEA 3362 and THEA 3361. Emphasis on scene/duet work and audition skills. Prerequisite: THEA 3362 and 3361, or permission of instructor.

4413 (3 hours)

Contemporary Theatre and Drama

Theatre and drama from 1950 to the present. Focuses on most recent trends in theatrical production, performance, playwriting and theory.

4433 (3 hours)

Acting Shakespeare's Folio

Advanced level scene work with emphasis on creating character using Shakespeare's Folio Technique. Development of reading, analyzing, and presenting of character in monologues and scenes. Prerequisites: THEA 2333 and 3343, or permission of instructor.

4463 (3 hours)

Homosexuality and Musical Theatre

In-depth study of the world of musical theatre and the inclusion and support of persons in the LGBTQ community beginning with the ancient Greeks up to the modern day. Special attention will be given to significant musical theatre works by members of the LGBTQ community. Same as WS 4XX3.

4513 (3 hours)

Advanced Lighting Design

Introduction to CAD for lighting design and skill development in design applications for different venues and genres including dance, opera, musicals, and plays. Advanced color theory, and experience with a variety of control systems. Prerequisites: THEA 3103 or permission of instructor. Same as FLM 4513.

4523 (3 hours)

Advanced Scene Design

Training and practice in principles of scene design; collaborative approaches, scenographic techniques, model building, design presentation, shop communication skills. Introduction to Cad for scene design. Prerequisites: THEA 1223, 3523; either THEA 3103 or 3533; and permission of instructor.

4533 (3 hours)

Advanced Costume Design

A further in-depth analysis of the elements and principles of costume design in relation to the design process used in the theatre. Emphasis on collaboration between direction, design and costume build, advanced rendering styles, and advanced character analysis. Other designer-specific skills may be addressed. Prerequisite: THEA 3533.

4561, 4562, 4563 (1-3 hours)

Special Topics in Theatre

Upper level work in an area of specialized study not available in the regular curriculum (e.g., acting in Chekhov, draping and patterning, production management).

4861, 4862 (1-2 hours)**Special Topics in Dance**

Upper level work in an area of specialized study not available in the regular curriculum. This is a performance class focusing on physical skills. Prerequisite: Permission of instructor or proficiency testing in reading music.

4973 (3 hours)**Senior Seminar: The Collaborative Process**

Preparing advanced students, as directors and designers, to develop production concepts and approaches in exciting, respectful, and creative collegial communication by arriving at a common language through play analysis utilizing business models.

4973 (3 hours)**Senior Seminar: The Collaborative Process**

Preparing advanced students, as directors and designers, to develop production concepts and approaches in exciting, respectful, and creative collegial communication by arriving at a common language through play analysis, utilizing business models.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Assigned projects requiring sophisticated skills (e.g., Independent Study in playwriting, directing or designing a University production, playwriting, one-person performance). Requires approval by appropriate theatre faculty. Limit of 3 hours counted toward graduation.

Women's and Gender Studies

Director

Holly Laird, English

The program in women's and gender studies at The University of Tulsa considers how gender and other intersecting factors, such as race, class, culture, sexuality, and age, have worked to shape the life experiences of women and men from diverse backgrounds.

The program analyzes the contemporary and historical factors that underlie the current statuses of women and men from all parts of the world and explores the various means by which people have sought to achieve equality.

The program's dual emphases on interdisciplinarity and intersectionality offer students analytical frameworks and methodological tools with which to understand people's life experiences, human interactions, and economic and social institutions. By promoting awareness and knowledge of status-based oppression; of people's inter-relationships; and of the ways in which civil rights movements throughout history have struggled for equity, the program seeks to contribute to changing attitudes and practices that tend to silence people's voices or that work to devalue, marginalize, or subordinate women and men's choices and life experiences. The B.A. degree is offered in this area.

The women's and gender studies program also offers a combined Bachelor of Art/Master of Art degree with a 4+1 program of study. Only students who plan to major in the women's and gender studies program will be admitted into the combined B.A./M.A. program. In addition to the established hours required for the undergraduate major, students will be expected to complete a minimum of 30 hours of graduate course work for an M.A. degree. For more information, see the *Graduate Bulletin*.

Major Requirements (30 Hours)

The women's and gender studies major requires a minimum of 30 hours of course work, 6 hours in the women's and gender studies core and 24 hours in women's and gender studies electives. Courses from at least three disciplines must be included in the elective credits, and eighteen hours must be six courses at or above the 3000 level. Special topics courses and other variable content courses may be counted toward elective course requirements with the approval of the women's and gender studies governing board. The capstone to the major is the senior project (a College requirement).

Minor in Women's and Gender Studies (12 Hours)

The women's and gender studies minor requires a minimum of 12 hours of course work. Students must complete WS 2013, WS 3113, and 6 hours in women's and gender studies electives. Courses from two disciplines must be included in the elective credits, and three hours must be at or above the 3000 level. Special topics courses and other variable content courses may be counted toward elective course requirements with the approval of the women's and gender studies governing board.

Women's and Gender Studies Core

WS 2013, Introduction to Women's and Gender Studies

WS 3113, Feminist Theory

Women's and Gender Studies Electives

WS/THEA 1043, Twentieth Century American Women Playwrights

WS 2033, Harry Potter and the American Culture

WS 2043/THEA 2033, Housewives to Harridans: Images of Women in Drama

WS/HIST 2053, European Women's History

WS/PSY 2083, Psychology of Trauma

WS/ATRG 2103, Women and Sports

WS/SOC 2123, Crime, Justice, and Social Order

WS/SOC 2133, Inequality in American Society

WS/POL 2153/FLM 2163, Women and Democracy on Film

WS/ENGL 2193, Literary Genders: Masculine Mystique/Feminine Myth

WS/LANG 2213, Language, Gender and Society

WS/THEA 2523, Contemporary Women Playwrights

WS 3013/SOC 3023, Sociology of Work and Occupations

WS/CPLT 3023, French Feminism

WS 3033, Masculinities

WS/SOC 3053, Socialization

WS/SOC 3063, Sociology of Education

WS/SOC 3093, Sociology of Poverty

WS/SOC 3123, Sociology of Family

WS/SOC 3133, Social Movements

WS/ANTH 3173, Gender Across Cultures

WS 3183, The Vampire in American History and Culture

WS/COM 3223, Bestselling Feminisms

WS/HIST 3273, History of Women in the United States to 1900

WS/HIST 3283, History of Women in the United States since 1900

WS 3323/COM 3323, Interpersonal Communication

WS 3343, Literature after Stonewall

WS/ENGL 3473, The Victorian Period in British Literature

WS/COM 3483, Principles of Visual Communication

WS/ENGL 3513, Modern Women Writers

WS/ENGL 3523, Gender in Modernism and Postmodernism

WS/ENGL 3753, Black American Women Writers

WS 4013, Women and Law

WS/PSY 4023, Psychology of Women

WS/POL 4043, Women's Movements in Asia

WS/PSY 4063, Psychology of Diversity

WS 4123, Colloquium in Women's and Gender Studies

WS 4143/HIST 4263, Men and Women at War

WS/SOC 4153, Women and Health

WS/SOC 4163, Sociology of Bodies

WS/PSY/SOC 4233, Responding to Violence

WS 4383, Queer Theory/Queer Lives

WS/THEA 4463, Homosexuality and Musical Theatre

WS/REL 4473, The Sacred Feminine

WS 4993, Independent Study

WS 5013, Theory and Methodologies

WS 5023 , Global Gender Formations

WS 5033, ProSeminar: Women's and Gender Studies

WS 5063, Special Topics in Women's and Gender Studies II

Women's and Gender Studies (WS)

1043 (3 hours)

20th-Century American Women Playwrights

An introduction to representative plays of American women playwrights of this century. Emphasis on literary and theatrical merit and the perspectives women playwrights bring to larger issues of American society. Same as THEA 1043.

2013 (3 hours) Block 2

Introduction to Women's and Gender Studies

The diverse cultural, historical, and social experiences of women, with emphasis on the U.S. Analyzing women's contributions to their culture(s), this course considers how gender distinctions affect women's lives and control the production and use of knowledge and power.

2033 (3 hours)

Harry Potter and the American Culture

Exploration of the Harry Potter books in the context of American culture.

2043 (3 hours) Block II

Housewives to Harridans: Images of Women in Drama

Examination of images of women in plays, the work of female playwrights, and emerging feminist theories used in dramatic criticism. Same as THEA 2033.

2053 (3 hours)

European Women's History

Introduction to European women's history from the 18th century to the present. Emphasis on how the important political, social, economic, and cultural events of European history shaped women's lives. Same as HIST 2053.

2083 (3 hours) Block 2

Psychology of Trauma

Examination of multidisciplinary research regarding the nature and prevalence of trauma, the history of trauma studies (including impact of the women's movement), theoretical models of the impact of trauma reactions, and the nature and course of the psychological impact of trauma. Same as PSY 2083.

2103 (3 hours)

Women and Sports

A chronological perspective on the contributions, challenges, and changes in sports for women. The history and development of women's sports and the role of governing bodies and sanctioning organizations are examined. The impact of sports on the role of women in American society and the Olympic influence are discussed. Same as ATRG 2103.

2123 (3 hours)

Crime, Justice, and Social Order

Comparative study of law, justice, and social order; models of crime and justice and the role of law in modern society. Same as SOC 2123.

2133 (3 hours) Block 2

Inequality in American Society

The persisting and changing nature of inequality in American society. Focus on race, class, and gender relations, and on the institutions in which these relations are enacted such as education, family, and work. Same as SOC 2133.

2153 (3 hours) Block 1

Women and Democracy on Film

Examines how democracy affects questions of authority and freedom that arise between women and men, as interpreted through film and the classics of political thought. Same as POL 2153/FLM 2163.

2193 (3 hours) Block 1

Literary Genders: Masculine Mystique/Feminine Myth

Investigations of stories told about gender in 20th-century writing, painting, advertisement, and film. Focusing in particular on modern images of women in their relations to men in culturally diverse texts in English literature, readings reflect the ways both sexes have been defined, redefined, and transformed in modern culture. Same as ENGL 2193.

2213 (3 hours)

Language, Gender and Society

Examination of the social construction of gender and of how it reflects on male-female communicative styles. Understanding of gender-related patterns in language, speech, and nonverbal communication as a basis for

analyzing communicative settings, both private and public. Same as LANG 2213.

2523 (3 hours) Block 1

Contemporary Women Playwrights

Course examines some of the more important plays written by women in the past 20 years. Plays will be studied as literature and as social documents. Same as THEA 2523.

3013 (3 hours)

Sociology of Work and Occupations

Changes in the occupational structure and labor movements in the U.S.; the relationship between work and systems of stratification (race, class, and gender); current employment patterns and trends, including the effects of technology and globalization on U.S. labor markets; workers' everyday experiences, work identities, and the meanings of work. Prerequisite: SOC 1033 or 2133 or permission of instructor. Same as SOC 3023.

3023 (3 hours)

French Feminism

Existentialist and postmodern feminist philosophies within the historical and political context of the Women's Liberation Movement (MLF) throughout 20th-century France. Attention to writings by French feminists such as Hélène Cixous, Catherine Clément, Claire Duchen, Luce Irigaray, Julia Kristeva, Rosi Braidotti, and Simone de Beauvoir. Same as CPLT 3023.

3033 (3 hours)

Masculinities

Analysis of historical, sociological, literary, and popular cultural constructions of masculinity with an emphasis on the U.S. Readings in masculinity theory are paired with a variety of classic and contemporary sources, with attention paid to the intersectionality of race, religion, nationality, gender, gender identity, sexual orientation, and social class. Prerequisite: WS 2013 or permission of instructor.

3053 (3 hours)

Socialization

Theory and research focusing on the development of the individual as a social being and lifelong participant in society. Historical and contemporary perspectives on the continuing interaction between the individual

and society. Prerequisite: SOC 1033 or 2133 or permission of instructor. Same as SOC 3053.

3063 (3 hours)

Sociology of Education

History of education in the U.S.; nature and purposes of education; laws and policies affecting education; reproduction of and challenges to social inequalities in education; curricular issues; contemporary controversies. Particular attention to the ways that race, class, and gender shape the schooling that different groups of students receive. Prerequisite: SOC 1033 or 2133, or permission of instructor. Same as SOC 3063.

3093 (3 hours)

Sociology of Poverty

Poverty and the poor within the broader context of general social inequality. Focuses on individualistic, cultural, and structural explanations of poverty and examines the policy implications deriving from each type of explanation. Prerequisite: SOC 1033 or permission of instructor. Same as SOC 3093.

3113 (3 hours)

Feminist Theory

The evolution and variety of local and global feminist thought over the past two centuries. Explores a range of theoretical frameworks, including cultural, liberal, and radical feminism, Enlightenment thought, Marxism, Freudian psychoanalytic theory, materialism, standpoint theory, and postmodernism. Analyzes classic and contemporary works that demonstrate how feminists have applied these frameworks to important and contested issues. Prerequisite: WS 2013 or permission of instructor.

3123 (3 hours)

Sociology of Family

Particular emphasis on family life in the U.S.; changing definitions of "family"; changing social constructions of childhood, motherhood, and fatherhood; diversity among families; policies and politics surrounding family life; the relationship between broad structural forces and people's everyday family experiences. Prerequisite: SOC 1033 or 2133 or permission of instructor. Same as SOC 3123.

3133 (3 hours)

Social Movements

Conditions underlying the development, success, and/or decline of social, political, and

economic movements in the U.S. and other parts of the world. Studies include civil rights, women's, environmental, peace, and religious movements. Prerequisite: SOC 1033 or permission of instructor. Same as SOC 3133.

3153 (3 hours)

Literature and Film

Explores the relationship between literature and film, considering such topics as literature as a source for film, differences between sources and film, cinematic and literary languages, adaptation from literature to film, and the screenplay as a literary form. May be taken more than once on different topics. Same as ENGL 3053/FLM 3153.

3173 (3 hours)

Gender Across Cultures

A comparative cultural investigation of gender relations and human sexuality in a range of human societies, including the United States. Same as ANTH 3173.

3183 (3 hours)

The Vampire in American History and Culture

Drawing on a variety of materials such as scholarly analyses, films, television series, and novels, this course examines themes such as race, gender, class, the body, and fandom in popular culture since the nineteenth century through various and ever-mutating vampire tales.

3223 (3 hours)

Bestselling Feminisms

Feminism, as a social movement, offers us a powerful example of how ideas circulate and develop in and through the media. Using readings, discussion, interviews and media analyses, this course explores widely popular accounts of women's personal, social, cultural and political options from 1960 to the present. Same as COM 3223.

3273 (3 hours)

History of Women in the United States to 1900

Emphasis on women's legal, social, and economic status within the realms of family, work, and community and the impact of feminism, slavery, science, and immigration, on women's lives. Same as HIST 3273.

3283 (3 hours)

History of Women in the United States since 1900

Emphasis on women's legal, social, and economic status within the realms of family, work, and community and the impact of feminism, race, science, and immigration on women's lives. Same as HIST 3283.

3323 (3 hours)

Interpersonal Communication

Analyzes processes involved in interpersonal communication; includes examination of communication variables that define, sustain, and change interpersonal relationships. Same as COM 3323.

3343 (3 hours)

Literature after Stonewall

The emergence of lesbian, gay, bisexual, and transgendered (LGBT) literatures and culture in the post-Stonewall period. Texts include both canonical and popular writings.

3473 (3 hours)

The Victorian Period in British Literature

British literature from 1830-1900. Figures may include Tennyson, the Brontës, Carlyle, Mill, Ruskin, Browning, George Eliot, Dickens, Hardy, Hopkins, Gissing, Arnold, Dante Gabriel and Christina Rossetti, and Kipling. Same as ENGL 3473.

3483 (3 hours)

Principles of Visual Communication

The nature of visual communication, including perceptual limitations, visual literacy, and visual communication's impact on social reality. Emphasis on the evolution, emergence, and impact of visual media as well as strategies for analyzing visual media. Same as COM 3483.

3513 (3 hours)

Modern Women Writers

Focuses on modern women writers in relation to both the canons and avant gardes of the 20th and 21st centuries; selected 19th century antecedent writers may also be included. Looks analytically and historically at fiction, poetry, and drama by women writers of varying ethnic, class, racial, and sexual backgrounds. Contemporary critical discussion of women and gender. Same as ENGL 3513.

3523 (3 hours)**Gender in Modernism and Postmodernism**

Developments and experimentation with the gendering of fiction and poetry by men and women writers in the 20th and 21st centuries. Explores the unstable borders between definitions of modernism and postmodernism (as names of historical periods, philosophies, and aesthetic methods) and between genders, including the problematic of “differences” (e.g. race, class, sexuality). Same as ENGL 3523.

3713 (3 hours)**Special Topics in Language and Literature I**

The study of special bodies of literature in English (ethnic, cultural); the relation of literature to other disciplines (philosophy, music); and English language areas (rhetoric, semantics) and of the relation of language to other disciplines (politics, anthropology). Same as ENGL 3713.

3753 (3 hours)**Black American Women Writers**

Representative works of poetry, fiction and drama by African American women, studied in cultural and historical context. Writers may include Wheatley, Jacobs, Hopkins, Larsen, Hurston, Marshall, Shange, Morrison, Lorde, and Dandicat. Same as ENGL 3753.

3863 (3 hours)**Special Topics in Women's and Gender Studies I**

The study of special issues in Women's and Gender Studies that enhances, supplements, or extends regular course offerings. May include courses that are occasionally cross-listed with those of other academic units, one-time offerings, and experimental offerings.

3993 (3 hours)**Independent Study**

Independent reading and research projects undertaken with permission of instructor.

4013 (3 hours)**Women and Law**

Gender issues, including contracts, torts, Criminal law, and property. Jurisprudential theories regarding gender issues, including debates on formal equality vs. substantial inequality. Other possible topics: the doctrine of comparable worth, sexual harassment in the work place, sex role stereotypes, economic

consequences of divorce, child custody, biological production, prostitution, pornography. Taught in the College of Law.

4023 (3 hours)**Psychology of Women**

Introduces students to prominent theories and empirical evidence regarding the psychology of women with a focus on how gender influences development and behaviors from a variety of perspectives. Same as PSY 4023.

4043 (3 hours)**Women's Movements in Asia**

Focus on the specific experiences of women in China, India, and Iran. Overview of the importance of religion and custom in defining the roles and identities of women in traditional patriarchies. Cross-cultural analysis of social and political movements that have democratized gender relations and altered women's rights and entitlements. Same as POL 4043.

4063 (3 hours)**Psychology of Diversity**

Provides an overview of many of the psychological and social issues facing marginalized and majority groups in the United States. Applies psychological theories and principles to understand the role of culture in human social behavior within a variety of contexts. Same as PSY 4063.

4123 (3 hours)**Colloquium in Women's and Gender Studies**

Colloquium on a specific theme, time period, theory, or theorist in Women's and Gender Studies. Emphasis on critical analysis of significant works within the field. Prerequisites: WS 2013 and WS 3113, or permission of instructor.

4143 (3 hours)**Men and Women at War: A History of Europe in the 20th Century**

Explore how gender norms changed over the course of the twentieth century in Europe and how this conflict impacted European history. Same as HIST 4263.

4153 (3 hours)**Women and Health**

The changing role of women in the medical system as patients, practitioners, and health

care providers; the politics of women's health care activism; inequality in the health care system; the relationship of various social institutions (family, religion, the economy, and the media) to women's health. Prerequisite: SOC 1033 or SOC 3703 or WS 2013 or permission of instructor. Same as SOC 4153.

4163 (3 hours)**Sociology of Bodies**

Examines social forces that shape human bodies. Explores how people use their bodies to perform identities, ways bodies are subject to regulations, surveillance and control, and ways that people use their bodies to resist cultural mandates about how bodies are supposed to look or behave. Prerequisite: SOC 1033. Same as SOC 4163.

4233 (3 hours)**Responding to Violence**

Explores interpersonal, intercultural and historical violence in a comparative context in both the U.S. and Ghana. Addresses experiences of interpersonal violence, individual and community experiences of war and displacements, and the historical violence of the slave trade. As an interdisciplinary course, each area studied will focus on the individual/psychological level, the cultural and social-structural level, and will pay attention to issues of gender. Three week trip to Ghana is a required component of the course. Additional course fees are charged. Same as SOC 4233, PSY 4233.

4383 (3 hours)**Queer Theory/Queer Lives**

Investigates queer theory and Historical experiences of lesbian, gay, bisexual, transgender, intersex and queer (LGBTIQ) people as addressed in historical and empirical studies, narratives, film and activism. Explores how queer sexual identities intersect with race, class, gender, ethnicity, age and disability. Areas of inquiry include identity, family, media representation, heterosexism and LGBTIQ social movements.

4463 (3 hours)**Homosexuality and Musical Theatre**

In-depth study of the world of musical theatre and the inclusion and support of persons in the LGBTQ community beginning with the ancient Greeks up to the modern day. Special attention will be given to significant musical theatre works by members of the LBGTQ community. Same as THEA 4463.

4473 (3 hours)**The Sacred Feminine**

An introduction to how various cultures have used the feminine mode and the pair, masculine-feminine, as ways to respond to ultimate reality. Materials from Taoism, Islam, Christianity, Hinduism, Judaism, prehistoric culture, and ancient Sumeria are considered in light of 1) the sacred body, 2) the sacred dance, and 3) sacred psychology. Same as REL 4473.

4863 (3 hours)**Special Topics in Women's and Gender Studies II**

Advanced study of special issues in Women's and Gender Studies that enhances, supplements, or extends regular course offerings. May include courses that are occasionally cross-listed with those of other academic units, one-time offerings, and experimental offerings. Prerequisite: WS 2013 or permission of instructor.

4973 (3 hours)**Seminar**

Requires students to apply knowledge and skills learned in previous Women's and Gender Studies courses to original research projects, internships, and/or service learning opportunities. Students will demonstrate proficiency through writing and oral presentations. Prerequisites: WS 2013, 3113, and at least six hours in Women's and Gender Studies electives, or permission of instructor.

4993 (3 hours)**Independent Study**

Prerequisite: Permission of instructor.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5013 (3 hours)

Theory and Methodologies

An interdisciplinary study of methods, analyses, and critiques used in women's and gender studies across a range of traditional disciplines, including history, art, humanities, sciences, education, health, economics, law, etc. Students will read and discuss how scholars rethink analytic paradigms and create new theoretical models to guide their work.

5023 (3 hours)

Global Gender Formations

Introduces key concepts, debates, and projects of global and transnational work in women's and gender studies, including the geographies and temporality that undergird knowledge on global/transnational issues; projects situated in various national and transnational contexts; institutional and policy structures that operate in the name of global women's rights; and critical responses to economic globalization.

5033 (3 hours)

ProSeminar: Women's and Gender Studies

An introduction to scholarship in, and the profession of, women's and gender studies, including coverage of the major theoretical debates and issues in the field and training in academic scholarship and professional procedures.

5063 (3 hours)

Special Topics in Women's and Gender Studies

Advanced study of special women's and gender studies field-specific topics, involving such concepts and practices as interdisciplinary (e.g., models, case studies, communication patterns), intersectionality (e.g., national or international demographics; global, regional or local coalitions; intra-familial patterns), and experiential/connected learning (e.g., best practices, historical development, pedagogies), not covered in listed courses.

Certificate Programs

The Henry Kendall College of Arts and Sciences offers interdisciplinary certificate programs as alternatives to departmental minors. Because certificate programs require substantially more credit hours than the typical minor, credits in excess of 12 hours may be double-counted to meet other requirements. Certificate programs are offered in the following areas: advertising, African American studies, classics, creative writing, international studies, journalism studies, Judaic studies, museum studies, political philosophy, and visual studies.

Certificate in Advertising

Director

M. Teresa Valero, Art/Graphic Design

Advisory Board

Mark Brewin, Communication

David Moncrief, Communication

Bill Hinkle, Communication

Local and State Advisory Board

Jim Knight, Jim Knight Design

Steve Turnbo, Schnake Turnbo Frank

Les Boyle, ROI Media, Inc.

David Littlefield, Littlefield, Inc.

Jim Wilburn, Winnercomm, Inc.

Dave Poth, Mazzio's Corporation

Dick Schmitz, Irving, Productions

Johnny Graham, Cloud 9 Productions

Pat Baldwin, KTUL, Channel 8

Mike Vrabac, KJRH, Channel 2

Regina Moon, Red Cross

Vic Bailey, Cox Communications

John Bowen, Cox Communications

Jim Langdon, Langdon Publications

Forrest Cameron, Greater Tulsa Reporter
Newspapers

Lee Hubby, Clear Channel Radio

Dan Lawrie, Cox Radio

Rick Cohn, KJRH, Channel 2

Ryan Rex, Rex PR

Jon Phillips, Renda Broadcasting

Libby Bender, Libby & Company

Winston Peraza, CubicCreative

Can Misirlioglu, Robert Green and
Associates, RGA NY

The certificate in advertising, better known as the Ad Program at TU, has been crafted to offer the aspiring marketing communications, advertising, media, public relations, graphic design, and broadcast video production student a concentrated, comprehensive program designed to prepare the graduate for a lucrative position in the account service and/or creative field.

Certificate Requirements

Students will be required to complete 21 credit hours to be chosen from an approved list of courses, some of which will satisfy general curriculum requirements. Courses are to be chosen from a minimum of two academic departments (art and communication).

Required Core Courses (15 hours)

ART 3243, Graphic Communication I
ART 3443, Digital Painting with Photoshop
COM 3433, Principles of Advertising
COM 3453, Media and Concept Strategy
COM 4543, Branding

Elective Courses (choose 6 hours)

ART 3113, Web Site Design
ART 3273, Typography and Graphic Production
ART 3293, Package Design
ART 3343/COM 3243, Advertising Design Concepts
ART 3453, Advertising Design
ART 3463, Adobe Illustrator
ART 4072, 4073, 4074, 4075, 4076, Portfolio: Graphic Design
ART 4243, Digital Video and Animation
ART 4433, Advanced Web Site Design/FLASH
ART 4803, Special Topics in Design
ART 4903, 4904, 4905, 4906, Internship (Third Floor Design)
COM 3473, Video Production: Studio
COM 3573, Video Production: Location
COM 3623, Public Relations Cases and Campaigns
COM 3633, Writing for Public Relations
COM 4443, National Student Advertising Competition
COM 4613, Internship

Minor in Advertising

To pursue a minor in advertising, students must complete the 15 hours of core courses listed in the requirements for the certificate in advertising.

Certificate in African American Studies

Director

Grant Matthew Jenkins, English

Advisory Board

Bob Jackson, English

Lydie Meunier, French

Jan Wilson, History

The certificate program in African American studies is designed for traditional and non-traditional students who want to gain an understanding of the history, literature, and culture of African Americans. Students must be in the process of completing a degree at The University of Tulsa or have already earned a bachelor's degree from an accredited four-year college or university.

Course Requirements

Students must complete 18 hours of approved course work, 9 of which must be at or above the 3000 level. At least 3 hours must be in a course addressing people of African descent outside of the United States. Approved courses are listed each semester in the schedule of classes, and students should select courses that satisfy the following requirements:

Core Courses (6 hours)

HIST 2543, Africans in the Americas from Slavery to Freedom

HIST 2583, Africans in America: From Reconstruction to the Civil Rights

Movement *or* ENGL 2083, African American Autobiography

Literature and the Arts (3-6 hours)

Select from approved courses in black literature, language, theatre, and music

Social Inquiry (3-6 hours)

Select from approved courses that treat sociological and anthropological aspects of black life

History (3-6 hours)

Select from approved courses that treat various aspects of the history of black people of African descent

Freshman and senior seminars on African American subject matter, internships in the African American community, and study abroad programs may also receive credit toward the certificate, pending the approval of the director and the advisory board.

Certificate in Classics

Director

Jonathan Arnold, History

Advisory Board

Jacob Howland, Philosophy

Joseph Kestner, English

Victor Udwin, Languages

The certificate program in classics is designed for the traditional and non-traditional student who wants to acquire a solid foundation in classical (Greco-Roman) civilization. Students must either have a bachelor's degree from an accredited college or university or be in the process of completing a bachelor's degree at The University of Tulsa.

Requirements (21 hours)

Students must complete 21 hours of approved course work, with a minimum of 12 hours at the 3000-level or above. Students must take at least one course from each of the distribution areas below; the remaining courses can be elected in any combination. Students who have taken Greek or Latin to fulfill the college language requirement will not be required to take a course from Area II. However, these language credits will not count toward the certificate. With the approval of the program director, courses not listed below, including special topics or study abroad courses, can be counted toward the certificate.

Area I: Classical Civilization

ARTH 2203, Survey of Art History I

ARTH 3133, Greek and Roman Art

HIST 2313, Ancient World

HIST 2363, Medieval World

HIST/FLM 3783, Greece and Rome in Film

HIST 3813, The Rise and Fall of the Roman Empire

HIST 4803, Topics in Greek History

HIST 4813, Topics in Roman History

HIST 4873, Topics in Medieval History

PHIL/REL 1453, The Great Conversation I: Ancient and Medieval

PHIL 3043, Ancient Philosophy

PHIL 3223, Nietzsche and Socrates

PHIL 4143, Studies in Plato and Aristotle

POL/PHIL 2083, Western Political Thought I

REL/PHIL 3363, Introduction to Early Christian Thought

REL 4043/PHIL 4243, Augustine

REL 4093, The Council of Nicea

THEA 2323, Survey of Dramatic Literature

THEA 3023, The Classical Theatre

Area II: Classical Languages

- GRK 1004, Beginning Greek I
- GRK 1014, Beginning Greek II
- GRK 2003, Intermediate Greek I
- GRK 2013, Intermediate Greek II
- GRK 3013, Attic Prose
- GRK 3103, Homer
- GRK 3203, Tragedy
- LAT 1004, Beginning Latin I
- LAT 1014, Beginning Latin II
- LAT 2003, Intermediate Latin I
- LAT 2013, Intermediate Latin II
- LAT 3023, Advanced Latin Texts I
- LAT 3033, Advanced Latin Texts II
- LAT 3683, Advanced Latin Grammar and Composition
- LAT 3993, Independent Study
- LAT 4993, Independent Study

Certificate in Creative Writing

Director

Michael Wright, Creative Writing, Theatre and Film

The certificate in creative writing provides an academic study of the art and craft of expression in poetry, fiction, nonfiction and/or performance writing, as preparation for either graduate school or career.

The creative writing certificate is interdisciplinary in that it emphasizes the importance of both formal and cultural diversity towards the development of the individual's vision and voice. Students will explore the art of writing in myriad genres and styles; they also study the applications (and implications) of creative writing through exposure to historical, cultural, and inter-media possibilities. It is imperative for the student of any art form to explore variations on creativity in other disciplines. Therefore the program intersects offerings in five departments within the Henry Kendall College of Arts and Sciences: communication, English, film studies, languages, and theatre. Occasional offerings from other disciplines/departments may be considered for credit on a case-by-case basis in consultation with the director of the creative writing program.

Certificate Requirements (21 hours)

Students must complete 21 hours of approved course work. Reading courses (6 hours) are required from two separate disciplines. One must be a 3000- or 4000-level class. In addition, all students pursuing the certificate must take ENGL 2403. Reading courses may be selected from offerings listed below.

Students may focus in one form (a maximum of three courses) and must take one course in another form in addition to their area of focus (i.e., three poetry and one screenwriting). Prospective students must consult with the director of the creative writing program to develop a course sequence that will work best with their major and other requirements.

Minor in Creative Writing (12 hours)

The minor consists of 12 hours of creative writing courses. Students who minor in creative writing must take ENGL 2403. Six of the hours must be at the 3000 or 4000 levels. Courses must be selected from the list of creative writing courses below. Courses which focus on reading only do not count toward the minor. Specific courses will vary from year to year and offerings may be added. Prospective students must consult with the director of the creative writing program to develop a course sequence that will work best with their major and other requirements.

Creative Writing Courses

COM 3233, Writing Nonfiction
COM 3413, News Gathering
COM 3493, Feature Writing
COM 4113, Documentary Workshop

ENGL 2403, Introduction to Creative Writing
ENGL 3213, Writing Fiction
ENGL 3223, Writing Poetry
ENGL 4263, Advanced Poetry Writing

FLM 3063, Adaptation to Stage and Screen
FLM 3113, Scripting for TV, Radio, Podcasting
FLM 3143, Screenwriting I
FLM 4143, Screenwriting II
FLM 4243, Screenwriting III
FLM 4973, Advanced Film and Video Seminar

THEA 3053, Playwriting
THEA 4003, Playwriting Workshop

Reading Courses (6 hours from two separate disciplines)

Other courses may apply; contact the creative writing director to ascertain applicability.

COM 3013, Mediated Meaning, Authenticity, Celebrity, Tourism, and Style

ENGL 2313, Reading Major American Writers
ENGL 2513, Reading Major British Writers I
ENGL 2523, Reading Major British Writers II
ENGL 3053/FLM/WS 3153, Literature and Film
ENGL 3243, African American Literature
ENGL 3313, 19th-Century American Literature
ENGL 3323, 20th-Century American Literature
ENGL 3333, Contemporary American Literature
ENGL 3343, African American Novel
ENGL 3353, Contemporary British Literature
ENGL 3423, Medieval British Literature
ENGL 3433, 16th-Century British Literature
ENGL 3443, 17th-Century British Literature
ENGL 3453, Restoration and 18th-Century Literature
ENGL 3463, The Romantic Period in British Literature
ENGL 3473, The Victorian Period in British Literature
ENGL 3483, Early 20th-Century British and Irish Literature

FLM 2023, Foundations of Screenwriting
FLM 2123, Survey of Modern Screenwriting
FLM/ENGL 2273, Film History
FLM 3283, Film Theory and Criticism

THEA 2173/FLM 2373, Survey of Modern Playwriting
THEA 2323, Survey of Dramatic Literature
THEA 2523, Contemporary Women Playwrights
THEA 3023, The Classical Theatre
THEA 3473, Musical Theatre History and Literature II
THEA 4413, Contemporary Theatre and Drama

CPLT/FLM 2043, American Culture on Film
CPLT 2313, Gangster Films
CPLT 2513, Colossus of the South: Brazil
CPLT 2613, Argentine Culture on Film
CPLT 2713, The Faust Myth in German Literature and Film

FR 3033, Approaches to the Analysis of French Texts
FR 3693, Cinéma et Culture

GERM 3023, German Film
GERM 3173, Masterpieces of German Literature I
GERM 3183, Masterpieces of German Literature II

GRK 3013, Attic Prose
GRK 3103, Homer
GRK 3203, Tragedy

LANG/WS 2213, Language, Gender, and Society

LAT 3023, Advanced Latin Texts I
LAT 3033, Advanced Latin Texts II

RUSS 3033, Approaches to Russian Literature
RUSS 3043, 20th-Century Russian Literature

SPAN 3033, Explication of Hispanic Literary Texts
SPAN 3333, Spanish Film
SPAN 4033, The Theatre in Spain
SPAN 4043, Narrative Patterns and the Quijote
SPAN 4053, Poetry of Spain
SPAN 4073, Poetry of Latin America
SPAN 4083, The Novel in Latin America
SPAN 4093, Short Story of Latin America
SPAN 4103, Modern Spanish Narrative
SPAN 4973, Seminar in Spanish Literature
SPAN 4983, Seminar in Latin American Literature

Certificate in International Studies

Director

Ryan Saylor, Political Science

Advisory Board

Christopher Anderson, Languages

Thomas Buoye, History

Ronald Jepperson, Sociology

Michael Mosher, Political Science

Andrew Wood, History

The certificate program in international studies meets the needs of students with personal, academic, and career interests in other cultures; in other political and economic systems; and in the institutions and practices of international relations. The program should be of special interest to students who plan a period of study abroad and serves as an excellent preparation for advanced study.

Certificate Requirements

Students must complete 21 hours of approved course work or 18 hours for students who take three years of a foreign language.

Comparative Core. Nine hours from three different disciplines.

ANTH 2043, Patterns in Culture: Cultural Anthropology

ANTH 3173, Gender Across Cultures

ECON 3083, International Economics

ECON 3113, Economic Development

POL 2333, Introduction to Comparative Politics

POL 3113, Comparative Foreign Policy

SOC 4823, Globalization

Area Emphasis. Twelve hours, at least nine upper level, and no more than six in any single discipline.

Option I - Europe

ECON 3083, International Economics

FR 3403, French Translation I

FR 3423, Business French

FR 3693, Cinéma et Culture

FR 4113, Topics in Francophone Literary and Cultural Studies

FR 4123, Topics in Literary and Cultural Studies of France

FR 4143, Genres and Periods

GERM 3173, Masterpieces of German Literature I

GERM 3183, Masterpieces of German Literature II

GERM 3213, Genre

GERM 4413, Individual Authors

GERM 4513, Special Topics

HIST 2313, Ancient World

HIST 2363, Medieval World

HIST 2403, Modern Europe

HIST 2603, Russia and the West

HIST 2663, Russia Today
 HIST 3463, 19th-Century Europe
 HIST 3473, 20th-Century Europe
 HIST/FLM 3503, The Middle Ages on Film
 HIST/FLM 3783, Greece and Rome in Film
 HIST 3813, Rise and Fall of the Roman Empire
 HIST 4413, Emergence of Modern Russia
 HIST 4423, Russia: Reform and Revolution
 HIST 4443, Soviet Russia
 HIST 4803, Topics in Greek History
 HIST 4813, Topics in Roman History
 HIST 4843, Topics in European History
 HIST 4873, Topics in Medieval History
 POL 2023, European Politics
 POL 2033, World Politics in the 21st Century
 POL 2103, Global Threats to American Security
 POL 3113, Comparative Foreign Policy
 POL 3303, State Building and Political Development
 POL 4023, Russian Foreign Policy
 POL 4053, Politics and Culture of Russia
 POL 4093, American National Security Policy
 RUSS 3013, Russian Culture
 RUSS 3023, Culture of the Soviet Union
 RUSS 3033, Approaches to Russian Literature
 RUSS 3043, 20th-Century Russian Literature
 SOC 4823, Globalization
 SPAN 3013, The Culture of Spain
 SPAN 3033, Explication of Hispanic Literary Texts
 SPAN 4033, The Theatre in Spain
 SPAN 4043, Narrative Patterns and the Quijote
 SPAN 4053, Poetry of Spain
 SPAN 4103, Modern Spanish Narrative
 SPAN 4113, Special Topics in Spanish
 SPAN 4973, Seminar in Spanish Literature

Option II - Asia/Africa

ANTH 2043, Patterns in Culture: Cultural Anthropology
 ANTH/REL 3443, Magic, Witchcraft, and Religion
 ECON 3083, International Economics
 FR 4403, French Translation II
 HIST 2613, China and Japan from Antiquity to 1800
 HIST 2623, China and Japan since 1800
 HIST 3663, Reform and Revolution in Modern China
 HIST 3683, Modern Japan, 1800 to Present
 POL 2033, World Politics in the 21st Century
 POL 2043, Politics and Culture of China
 POL 3073, Politics and Culture of India
 POL 3113, Comparative Foreign Policy
 POL 3263, African Politics

POL 3273, Chinese Politics
POL 3353, Politics and Culture of Japan
POL/WS 4043, Women's Movements in Asia
POL 4503, Topics in International Studies
SOC 3113, Population and Ecology
SOC 4823, Globalization

Option III - Latin America/Caribbean

ANTH 2043, Patterns in Culture: Cultural Anthropology
ANTH/REL 3443, Magic, Witchcraft and Religion
ECON 3083, International Economics
HIST 2213, Latin America
HIST 2243, Social Revolutions in Latin America
HIST 2283, History of Ancient America
HIST 2543, Africans in the Americas from Slavery to Freedom
HIST/FLM 3363, History of Latin America through Film
HIST 4573, American Diplomatic History since 1914
HIST 4833, Topics in Latin American History
POL 2033, World Politics in the 21st Century
POL 3113, Comparative Foreign Policy
POL 3303, State Building and Political Development
SOC 3113, Population and Ecology
SOC 4823, Globalization
SPAN 3023, Latin American Cultures
SPAN 3033, Explication of Hispanic Literary Texts
SPAN 3463, Business Spanish
SPAN 3473, Argentine Film
SPAN 4073, Poetry of Latin America
SPAN 4083, The Novel in Latin America
SPAN 4093, Short Story of Latin America
SPAN 4113, Special Topics in Spanish
SPAN 4983, Seminar in Latin American Literature

Certificate in Journalism Studies

Director

John Coward, Communication

Advisory Board

Jean Blocker, Sociology

Jeffrey Hockett, Political Science

Steve Steib, Economics

The certificate in journalism studies is designed to give formal academic and professional attention to the practice and study of journalism, to prepare individuals for entry-level positions in the field of journalism, and to enhance the skills necessary for advancement in existing positions. In most cases students already majoring in communication should not pursue this certificate since course offerings in the major include most of the certificate requirements

Certificate Requirements

Students are required to complete 23 credit hours chosen from an approved list of courses, some of which satisfy general curriculum requirements. Elective courses are chosen from a minimum of two academic departments. Under special circumstances, the program director may approve the substitution of one unlisted elective relevant to a student's individual requirements.

Required Courses (14 hours)

COM 2123, Mass Communication and Society

COM 2423, News and Society

COM 3413, News Gathering

JS 3001, Journalism Practicum (2 semesters)

One of the following methods courses:

COM 3113, Inquiry in Communication

SOC 2023, Statistics for Social Sciences

SOC 4123, Qualitative Methods of Sociological Research

Electives (9 hours)

ART 2153, Photography I

COM 2353, Political Communication

COM 3233, Writing Nonfiction

COM 3493, Feature Writing

COM 3573, Video Production: Location

COM 3863, Media History

COM 3873, History and Philosophy of Free Expression

COM 3943, Interviewers and Interviewing

COM 4113, Documentary Workshop

POL 3043, American Political Thought

POL 3053, American Foreign Policy

POL 3343, Civil Liberties in the United States

SOC 3013, Political Sociology

For more information, consult the College Office of Advising or e-mail John Coward, certificate director, at john-coward@utulsa.edu.

Journalism Studies (JS)

3001, 3002, 3003 (1-3 hours)

Journalism Practicum

3992 (2 hours)

Independent Study

Certificate in Judaic Studies

Director

Eduardo D. Faingold, Languages

Advisory Board

Jane Ackerman, Religion

Robert Butkin, Law

Stephen Gardner, Philosophy

Jacob Howland, Philosophy

Joli Jensen, Communication

Joseph Kestner, English

Ovadia Shoham, Petroleum Engineering

The certificate program in Judaic studies is designed to provide students with an overview of Jewish history, culture, and religion. The program serves as an excellent preparation for advanced study in many fields, including religion, philosophy, and history. The program may be of special interest to students who plan a period of study abroad in Eastern Europe or the Middle East.

Certificate Requirements

Students must complete 18 hours of approved course work, including at least 12 hours at the 3000-level or above. Students must take at least one course from each of the two core course areas. Core courses may substitute for electives. In addition to the courses listed below, topical courses eligible for credit towards the certificate may be offered periodically, and study abroad courses may be eligible for credit towards the certificate as approved by the program director.

Core Courses (12 hours)

Area I - Arts, Letters, and Film

ENGL/FLM 4173, The Jewish Experience in Film

COM 3193, Media, Culture and Power

CPLT 2713, The Faust Myth in German Literature and Film

CPLT/FLM 2043, American Culture on Film

Area II - Religion and Philosophy

PHIL 3293, Jewish Thinkers in the Twentieth Century

PHIL/REL 4333, Jewish Philosophy and Revelation: Ancient and Medieval Approaches

REL 2013, Introduction to the Hebrew Bible

REL 2583, Confronting the Holocaust: Questions of Life and Faith

Electives (6 hours)*

HEBR 1004, Beginning Hebrew I

HEBR 1014, Beginning Hebrew II

HEBR 2003, Intermediate Hebrew I

HEBR 2013, Intermediate Hebrew II

*Hebrew language electives are required in addition to the language requirements in the core curriculum.

Certificate in Museum Studies

Coordinator

Lamont Lindstrom, Anthropology

Advisory Board

Garrick Bailey, Anthropology

Christina Burke, Philbrook Museum

John Coward, Communication

Brian Hosmer, History

Joli Jensen, Communication

Robert Pickering, Museum Science and Management, Anthropology and Gilcrease Museum

Purpose

The certificate in museum studies program is designed for students who wish to enhance their knowledge of the history and role of museums as well as issues of cultural heritage and historic preservation. It prepares students for graduate study leading to careers in museum work by exploring the curation of material culture including ethnographic, artistic and historical artifacts, everyday museum operations, and museology's current theoretical, political, and ethical concerns.

Admission

Students must be in the process of completing a degree at The University of Tulsa or have already earned a bachelor's degree from an accredited four-year college or university.

Certificate Requirements

Students are required to take 18 hours of coursework, a minimum of 12 hours at the 3000 and 4000 levels. Courses are to be chosen from the list of core courses and approved electives and must come from at least two academic departments. The certificate requires an introductory course in museum studies and an internship at an approved museum. Electives should be chosen in light of a student's particular interests in museum studies; courses not listed below may be approved as certificate electives by the coordinator.

Core Requirements (6 hours):

ANTH 4083, Introduction to Museum Work

One of the following 3-hour internships:

ANTH 4983, Internship/Service Learning

ARTH 4593, Museum Internship

HIST 4993, Independent Study

Electives (12 hours, 6 of which must be at the 3000 or 4000 level)

ANTH 2043, Patterns of Culture: Cultural Anthropology
ANTH 3103, North American Indians
ANTH 4033, Archaeology of the Americas
ANTH 4043, Old World Prehistory
ANTH 4113, Summer Field School in Archaeology
ANTH 4213, Summer Field School in Ethnography
ANTH 4403, Topics in Cultural Anthropology
ANTH 4503, Topics in Prehistory
ANTH 4513, Regional Studies in Prehistory
ANTH 4633, Regional Studies in Cultural Anthropology
ANTH 5053, Cultural Property, Ethics and Law*
ART 3243, Graphic Communication I
ARTH 2203, Survey of Art History I
ARTH 2223, Survey of Art History II
ARTH 3093, American Art
ARTH 3353, History of Prints
ARTH 4013, Baroque Art
ARTH 4023, Art Since Mid-Century
ARTH 4223, Fauvism to Abstract Expressionism
ARTH 4613, 19th-Century European Art
COM 2123, Mass Communication and Society
COM 2913, Organizational Communication and Society
COM 3473, Video Production: Studio
COM 3573, Video Production: Location
COM 3623, Public Relations Cases and Campaigns
COM 3633, Writing for Public Relations
COM 4943, Analysis of Communication in Organizations
HIST 2133, Images of the American West
HIST 2213, Latin America
HIST 2283, History of Ancient America
HIST 2523, History of Oklahoma
HIST 2573, Indians in American History
HIST 4283, American Indian Ethnohistory

*Permission of instructor is required to enroll in ANTH 5053 as an undergraduate.

Certificate in Political Philosophy

Director

F. Russell Hittinger, Warren Professor of Catholic Studies

Advisory Board

Lars Engle, English

Thomas Horne, Political Science

Jacob Howland, Philosophy

Ronald Jepperson, Sociology

Michael Mosher, Political Science

The certificate program in political philosophy is designed for students who want to gain an historical and philosophical perspective on current political disputes through the study of the classic texts in the Western political tradition.

Course Requirements

Students must complete 21 hours of approved course work. Twelve hours must be at the 3000 or 4000 level.

Required (Must be completed before or in conjunction with other courses.)

POL/PHIL 2083, Western Political Thought I

POL/PHIL 2093, Western Political Thought II

Electives (15 additional hours)

ECON 4053, History of Economic Theory

ENGL/FLM 4543, Shakespeare

HIST 2313, Ancient World

HIST 4033, Seminar in the History of Political Thought

HIST/PHIL 4453, Hegel, Marx and Nietzsche

HIST 4843, Topics in European History

PHIL 2183, Current Problems in Political and Social Philosophy

PHIL 3193, Philosophy, Politics and Economics

PHIL 3243/POL 3143, Liberalism and Democracy

PHIL 4143, Studies in Plato and Aristotle

PHIL 4163, Philosophy of Natural Law and Natural Right

POL 3043, American Political Thought

POL 3173, Conservative Critics of Mass Society

POL 4033, Seminar in the History of Political Thought

POL 4523, Topics in Law and Society

REL/PHIL 3263, Religion and Morality from Kant to Nietzsche

REL 4033, Legal and Political Theory of Thomas Aquinas

REL 4043, Augustine

REL 4203, Resistance, Rebellion, and Death: The Ethics of Violence

REL 4213, Aquinas on Virtue and Vice

REL 4483, Toleration and Moral Diversity

SOC 4193, Sociological Theory

Certificate in Visual Studies

Director

David Moncrief, Communication and Film Studies

Advisory Board

M. Teresa Valero, Art

The visual studies certificate program is designed to give more concentrated formal academic attention to the major changes associated with ongoing developments in visual communication, which includes graphic design, desktop publishing, photographic communication (film and video), and their underlying technologies. The visual studies certificate program provides students with the opportunity to learn the history and ideas related to visual communication and to learn and experience the techniques of visual communication.

Certificate Requirements

Students are required to take 21 hours chosen from an approved list of courses, some of which satisfy general curriculum requirements. Courses are chosen from a minimum of three academic departments and include a minimum of 12 hours at the 3000 and 4000 level. The program serves traditional and non-traditional students. Students majoring in art, communication, philosophy, or theatre must work closely with the program coordinator to ensure that they do not exceed the maximum number of hours in the major.

Required Courses (9 hours)

ART 2053, Icons and Images: The Visual Dialogue

ART 3243, Graphic Communication I

COM 3483, Principles of Visual Communication

Electives (12 hours)

ART 1103, Drawing I

ART 2153, Photography I

ART 3113, Web Site Design

ART 3253, Graphic Communication II

ART 3273, Typography and Graphic Production

ART 3313, Photography II

ART 3343, Advertising Design Concepts

ART 3443, Digital Painting with Photoshop

ART 4152, 4153, 4154, 4155, 4156, Photography Studio

ART 4433, Advanced Web Site Design/FLASH

COM 3023, Documentary Expression in Film and Video

COM 3473, Video Production: Studio

COM 3573, Video Production: Location

CPLT/FLM 2043, American Culture on Film

ENGL 3053/FLM/WS 3153, Literature and Film

PHIL 4053, Aesthetics

THEA 3523, Scene Design: Background and Practice

THEA 4333, Directing I

Student should check course descriptions for required prerequisites.

Early Intervention Minor

Participating Faculty

Paula Cadogan, Communication Disorders

Kris Foyil, Communication Disorders

Carla Lynch, Nursing

Jessica Scott, Deaf Education

This interdisciplinary minor is appropriate for students who plan to work with young children with special needs and their families. It is recommended for, but not limited to, students in communication disorders, education, nursing, and psychology.

Minor in Early Intervention (12 hours)

The minor requires a minimum of 12 hours. Six of the hours must be at the 3000 or 4000 levels.

Students must take at least two courses from the following list:

CDSP 1013, Introduction to Communication Disorders

CDSP 4033, Infants and Toddlers at Risk

NSG 4213, Challenges of Childhood

PSY 3063, Developmental Psychology

PSY 4063, Psychology of Diversity

PSY 4873, Community Psychology Practicum

Two additional courses selected from the list above or the following list:

CDAU 3203, Introduction to Clinical Audiology

CDAU 4353, Auditory Options for Children Who Are D/HH

CDDE 1003, American Sign Language I

CDDE 2033, Introduction to Deaf Education

CDDE 4313, Language Development in Students Who Are D/HH

CDDE 4333, Literacy Development in Students Who Are D/HH

CDSP 2023, Normal Language Development

CDSP 3033, Introduction to Language Disorders

EDUC 3713, Child and Adolescent Development and Learning

EDUC 4013, Education of the Exceptional Child

PSY/WS 2083, Psychology of Trauma

SPAN 1004, Beginning Spanish I

Prospective students consult with their advisor to develop a course sequence that will work best for their major and other requirements.

The Collins College of Business

The Collins College of Business educates skilled and inspired business and health sciences professionals. Our emphasis on practical application and professional depth has helped our graduates become leaders in their professions, organizations, and communities. Today, as business and the health sciences evolve under the forces of globalization and technology, we are keeping pace with a variety of degree programs that prepare students for success. We emphasize academic rigor, practical problem-solving, hands-on experience, and teamwork. We have tailored degree programs to support full-time and part-time enrollment—all while maintaining the highest accreditation levels.

Since 2011, *Bloomberg Businessweek* has ranked the Collins College of Business as a Top 100 Business College in America. The Collins College of Business has also been ranked among the top six business colleges in the Southwest and top 40 private colleges. The accounting and management information systems programs have been ranked in the top 10 nationally based on student satisfaction. The magazine has given A's to the Collins College of Business in teaching quality, facilities, and service. *Bloomberg Businessweek* based the national rankings on nine measures including student satisfaction, postgraduate outcomes, and academic quality.

Vision and Mission

Our vision is to be an internationally recognized business school with a reputation for excellence in education and scholarship.

Our mission, through creating and disseminating knowledge, is to educate and mentor business and healthcare professionals for leadership roles in the international arena.

Accreditation

The Collins College of Business is accredited at both the graduate and undergraduate levels by AACSB International—The Association to Advance Collegiate Schools of Business. AACSB International accreditation represents the highest standard of achievement for business schools worldwide. Institutions that earn accreditation confirm their commitment to quality and continuous improvement through a rigorous and comprehensive peer review. AACSB International accreditation is the hallmark of excellence in management education. Less than 5% of the schools of business worldwide have earned this distinguished hallmark of excellence in management education.

The School of Nursing is approved by the Oklahoma Board of Nursing and the baccalaureate nursing program is accredited by the Accreditation Commission for Education in Nursing. The athletic training program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE) and coursework is designed to prepare students for national athletic training certification by the Board of Certification (BOC) Inc. The exercise and sports science teacher certification program is recognized by the Oklahoma Commission for Educational Quality and Accountability.

Academic Programs

Academic programs available through the Collins College of Business include five undergraduate degrees, five master's degrees, and six certificate programs.

Undergraduate Business Programs

Bachelor of Science in Business Administration (B.S.B.A.)

Majors available: accounting, economics, energy management, finance, management, management information systems, and marketing

Minors available: accounting, energy, finance, international business, management information systems, and marketing; business administration for non-business majors; healthcare informatics for both business and non-business majors

Bachelor of Science in International Business and Language (B.S.I.B.L.)

Language concentrations available: Chinese, French, German, Russian, and Spanish; American track for international students for whom English is a second language

Certificate Programs

Accounting

Applied Innovation

Finance

Management Information Systems

Not-for-Profit Administration

Sport Administration

Undergraduate Healthcare Programs

Bachelor of Science in Athletic Training (B.S.A.T.)

Bachelor of Science in Exercise and Sports Science (B.S.E.S.S.)

Bachelor of Science in Nursing (B.S.N.)

Minor in Coaching

Admission to certain degree programs may be limited and have additional academic requirements or a separate program application.

Graduate Business Programs

Master of Accountancy

Master of Business Administration

Master of Energy Business (online)

Master of Science in Finance

Master of Business Administration/Master of Science in Finance

Master of Business Administration/Master of Science in Computer Science

Master of Science in Finance/Master of Science in Applied Mathematics

Juris Doctor/Master of Business Administration

Juris Doctor/Master of Science in Finance

Details regarding graduate programs can be obtained from the Office of Graduate Business Programs, the *Graduate Bulletin*, or the College website at www.utulsa.edu/collins.

Honors Program

The Collins College of Business invites graduating high school seniors with exceptional academic records and a spirit of intellectual curiosity to consider the University's Honors Program. The core courses in the Honors Program, listed on page 84, are credited to the student's general curriculum requirement. Research is an option, but not a requirement, for Honors students. A student's directed research is applied either as elective or as major required hours. Students admitted to the Honors Program receive an academic scholarship and may choose to major in any academic discipline offered by The University of Tulsa. More information about the Honors Program may be found on page 20 of this *Bulletin* or at www.utulsa.edu/academics/Honors-Program.aspx.

Internship Program

Student internships are working programs jointly planned and administered by faculty of the Collins College of Business and participating public or private organizations. Internships provide the opportunity to reinforce knowledge of principles and concepts introduced in the classroom through application in actual professional situations. The program includes working arrangements with Tulsa-area organizations as well as internship opportunities in international locations.

For the best internship opportunities and information concerning career development, students should consult the Business Career Center during their freshman year and their faculty advisors at the start of their junior year. Career Services will also assist with opportunities for internships.

Williams Student Services Center and Business Career Center

The Williams Student Services Center opened in Helmerich Hall in August 2008 to better serve the students in the Collins College of Business. Academic advisors for undergraduate and graduate students work alongside the Assistant Dean for Business Career Services to provide academic and career advising to our students. The mission of the Williams Student Services Center is to guide men and women of diverse backgrounds and cultures on their educational journeys by providing academic recruiting, academic and career advising, and professional skill development to help them prepare for leadership in 21st Century global organizations.

The Business Career Center is located inside the Williams Student Services Center. The Center is equipped to provide many resources for undergraduate and graduate business students, including resume review, cover letter review, job search strategies, interview strategies, internship information, listings of available positions, and employer information. Workshops and networking events are also provided throughout the academic year to meet the needs of students as they pursue careers in the business world.

Applied Option

A student who selects the "Applied Option" in the Bachelor of Science in Business Administration program or the Bachelor of Science in International Business and Language program will apply business principles in an actual business environment through a formal Collins College of Business internship. In addition to completing all the requirements for the B.S.B.A. or B.S.I.B.L. degree, the student must satisfactorily complete an additional one-semester or summer term internship course (BUS 4001,

Business Applications). The internship will be secured by the student, but must be approved by the faculty member guiding the internship and by the associate dean.

Pre-Law Study

The official statement of the American Association of Law Schools emphasizes the preference of law schools for students who are well-rounded in their educational backgrounds, capable of critical and creative thinking, and able to express themselves clearly. No specific undergraduate major is required or recommended.

Policies

Transfers

Transfer policies for the Collins College of Business for the B.S.B.A. and B.S.I.B.L. are as follows:

- At least 50% of the business credit hours (other than economics) required for the business degree must be completed at The University of Tulsa.
- Credits earned at an AACSB-accredited program, while a student is not enrolled at The University of Tulsa for one or more non-summer semesters, may be transferred provided the credits are consistent with other transfer policies of the College and University.
- No transfer credit will be accepted toward the business core or major required courses subsequent to enrollment at The University of Tulsa, with the following exception: a maximum of six hours taken during a summer term may be transferred from an AACSB-accredited program.
- Acceptance of prior coursework: course content varies over time and among institutions. Students who are transferring from other schools or who have had a break in their degree program at The University of Tulsa must have their transcripts reviewed by the Collins College of Business to determine which prior courses fulfill requirements toward a degree in the College.
- Final/official transfer evaluations will be based on specific program requirements current at the time of a student's first enrollment and will not necessarily apply to another curriculum if the student changes majors.
- After completing a total of 60 hours of college work, the Collins College of Business will not accept transfer credit from community colleges or other two-year colleges.

Academics

Academic policies for the Collins College of Business for the B.S.B.A. and B.S.I.B.L. are as follows:

- Electives: Students in the Collins College of Business may apply up to 18 semester hours of Pass/D-F coursework in general education electives or free electives toward a degree. Transfer hours, BUS 1001, and major discipline internships are not considered part of the 18 semester hours. No more than four semester hours of Pass/D-F coursework may be taken in one semester. A maximum of three semester hours of activity courses (ATRG 1991 and MUS 0XXX) may be used as a low-level free elective in the Collins College of Business. Credit by examination, including Advanced Placement, International Baccalaureate, and proficiency

examinations consistent with University policy, will be acceptable toward the degree, except for business core courses (other than economics). CLEP credits are not accepted.

- No student in the Collins College of Business may attempt any course in which a grade of F has been received in any two previous attempts, unless permission is obtained. Students who have failed a course may not subsequently take a proficiency exam as a replacement. Students who have attempted a course at The University of Tulsa may not receive credit for that course from another university.
- Readmittance to the Collins College of Business degree programs: Students who expect to break their progress in a Collins College of Business degree program for up to one year may apply for a leave of absence, ensuring their right to remain in the degree program of their current enrollment. Students who do not complete any courses at The University of Tulsa for more than one calendar year must reapply for admission to the Collins College of Business and, if readmitted, will be under the degree program in effect at the time of their readmission.
- A maximum of 30 hours of course credits in one discipline may be applied toward B.S.B.A. degree requirements. All B.S.B.A. and B.S.I.B.L. students must complete 48 hours of credit from 3000- and 4000-level courses in order to qualify for graduation.
- Business students enrolled in junior- and senior-level (3000- and 4000-level) business and major required courses are expected to have achieved junior standing and must have completed the following business core classes: ENGL 1033; ACCT 2113 and 2123; ECON 2013 and 2023; MATH 1093 and 1103; BUS 1001 and 2001; BL 2013; MIS 1001 and 2003; and QM 2013 and 2023 with grades of C or higher. A minimum grade point average of 2.0 must be maintained in the major for a student to be eligible to graduate. A minimum of 50% (62 hours) of coursework must be completed outside the Collins College of Business. Up to six hours of statistics and nine hours of economics may be included in the hours outside of business to meet the 50% requirement.
- Failure to successfully complete one or more of the core business courses in sequence may necessitate summer enrollment in order to progress full-time on a four-year graduation pace.
- Students wishing to enroll in courses that have prerequisites must satisfactorily complete those prerequisites before enrolling in the more advanced class, unless granted written permission by the Undergraduate Programs staff prior to that enrollment.
- Non-business students pursuing a marketing minor, arts management major, or organizational studies major must have junior standing and complete the following prerequisites with a grade of C or higher before enrolling in MKTG 3003: ACCT 2113, ECON 2023, and QM 2013.

Probation

Students on probation in the Collins College of Business must follow all University regulations concerning probation. In addition, College probation policies for the B.S.B.A. and B.S.I.B.L. are as follows:

- Students will be limited to a maximum of 13 semester hours during a fall or spring semester and six hours during the entire summer session.

- Students must follow other guidelines required by the dean.
- Freshmen and sophomores on probation, and all students with a grade point average lower than 2.0 at the end of their sophomore year, must repeat certain courses for which a D grade is recorded during their next academic term in residence, provided the courses are in the official schedule of courses for that term. Courses to be repeated are specified by the student's advisor. This will usually include business core classes normally taken during the freshman and sophomore year.
- A grade of F in any business core class requires repetition at the next opportunity while the student is in residence. The advisor may require repetition of any core course that is a prerequisite to the courses failed.

Bachelor of Science in Business Administration

Business professionals need a broad theoretical and practical education that prepares them for continuous learning and effective leadership. The business curriculum combines a broad general education and a strong business foundation with major required courses in a specific business discipline. Courses in the social and natural sciences, the humanities, and mathematics, as well as business, are emphasized during the first two years of study, which are devoted to the Tulsa curriculum and introductory business core courses. Work in the business core continues during the junior year, while the senior year provides an opportunity to concentrate in a particular business discipline.

Degree Requirements

The Bachelor of Science in Business Administration (B.S.B.A.) degree requires successful completion of 125 hours of coursework as detailed below:

- I. Tulsa Curriculum (45 hours)**

Every undergraduate must fulfill the requirements of the Tulsa curriculum, which has two parts: the core curriculum and the general curriculum.

 - A. Core (20 hours)**

Writing: ENGL 1033, Exposition and Argumentation, and ENGL 3003, Writing for the Professions, with grades of C or higher
Mathematics: MATH 1093, Mathematics with Applications, and MATH 1103, Basic Calculus, or higher-level math
Language: Students complete or show proficiency through the first year of a modern foreign language
 - B. General Curriculum (Blocks) (25 hours)**

Block I, Aesthetic Inquiry and Creative Experience	6
Block II, Historical and Social Interpretation.....	12
(ECON 2013, ECON 2023, and six other hours*)	
Block III, Scientific Investigation	7
(One hour of laboratory or field experience required)	
- II. General Education Electives (12 hours)**

Only courses from outside the Collins College of Business may be used for general education electives.

III. Business Core (37 hours)

Business majors must earn a grade of C or higher in each of the business core courses in order to meet requirements for graduation.

A. Freshman Core (2 hours)

BUS 1001, Business Orientation and Planning for Success (pass/fail)

MIS 1001, Introduction to Spreadsheets

B. Sophomore Core (19 hours not including ECON 2013 and 2023)

ACCT 2113, Concepts in Accounting Information I

ACCT 2123, Concepts in Accounting Information II

BL 2013, Legal Environment of Business

BUS 2001, Essential Business Skill Development

ECON 2013, Principles of Economics I: Macroeconomics*

ECON 2023, Principles of Economics II: Microeconomics*

MIS 2003, Introduction to Management Information Systems

QM 2013, Statistics I

QM 2023, Statistics II

C. Junior/Senior Level Core (16 hours)

BUS 3001, Strategies for Career Success

FIN 3003, Business Finance

MGT 3003, Principles of Management

MGT 4073, Strategic Management

MKTG 3003, Principles of Marketing

QM 3023, Operations Management

IV. Major Required Courses (19-31 hours)

(See descriptions in specific major sections.)

V. Free Electives (0-12 hours depending on major)

Any non-required undergraduate course the institution offers.

*ECON 2013 and ECON 2023 are required courses in the business core which are also used to fulfill part of the Tulsa curriculum Block II requirement.

Suggested Sequence of Study

Students are admitted to the Collins College of Business as freshmen and are encouraged to explore and study all the disciplines in which they could declare a major. To supplement this process and to build on a hierarchy of knowledge and general education, the following sequence of courses is presented as a guideline for study. Specific majors have their own required and suggested sequence of courses. The suggested sequence of study is different for the energy management major and the B.S.I.B.L. degree. Consult the energy management major program materials or the B.S.I.B.L. degree program materials for specific information.

Freshman

First Semester (14 hours)

ENGL 1033, Exposition and Argumentation
MATH 1093, Math with Applications
MIS 1001, Introduction to Spreadsheets
Foreign Language
Block I, Aesthetic Inquiry & Creative Exp.
BUS 1001, Business Orientation

Second Semester (16 hours)

MATH 1103, Basic Calculus
Block III, Scientific Invest. with lab
General Education elective
Foreign Language
Block II, Historical and Social Int.

Sophomore

First Semester (15 hours)

ECON 2013, Macroeconomics (Block II)
ACCT 2113, Concepts in Acctg. Info. I
QM 2013, Statistics I
Block II, Historical and Social Int.
MIS 2003, Introduction to MIS

Second Semester (16 hours)

ECON 2023, Microecon. (Block II)
ACCT 2123, Concepts in Acctg. Info. II
QM 2023, Statistics II
BL 2013, Legal Environment of Bus.
Block I, Aesth. Inquiry & Creative Exp.
BUS 2001, Essential Bus. Skill Devel.

Junior

First Semester (15 hours)

MGT 3003, Principles of Management
BUS 3001, Strategies for Career Success
MKTG 3003, Principles of Marketing
ENGL 3003, Writing for the Professions
Block III, Scientific Invest.
MIS 3001, Advanced Spreadsheet Apps.

Second Semester (18 hours)

FIN 3003, Business Finance
QM 3023, Operations Management
Free elective
Major course**
Major course
General education elective

Senior

First Semester (15 hours)

Major course
Major course
Upper free elective
General education elective
Free elective

Second Semester (15 hours)

Major course
Upper general education elective
Upper free elective
MGT 4073, Strategic Management
Major course

**The number of required major courses varies by major. See specific major requirements for more information.

Business (BUS)

1001 (1 hour)

Business Orientation and Planning for Success

Provides students with knowledge, skills, and tools to become business professionals. There will be time for self-reflection and to discover students' unique strengths and how to apply them to future goals.

1013 (3 hours) Block 2

Business and Society

Examines the role of business in society by introducing the global perspective of business, ethical issues, environmental concerns, and the impacts of demographic diversity. Provides a working understanding of the world of business on both the theoretical and practical levels by looking at business applications and business functions.

1971 (1 hour)

Seminar in Business Career Development

Designed to provide business students with a comprehensive overview of a successful career search and teach students how to reach their career goals. Students will identify who they are and their major to then create individual strategies.

2001 (1 hour)

Essential Business Skill Development

Develops critical thinking skills enabling effective ethical decision-making in a business setting. Exploration of personal cultural competencies and development of strategies to interact in a global business environment. Use of teamwork, professional, and critical thinking skills. Prerequisite: BUS 1001.

3001 (1 hour)

Strategies for Career Success

Provides techniques of writing resumes, successful interviewing skills, professional use

of social media, and networking. Allows reflection on ethical issues and how to apply ethical reasoning to business situations.

Student self-evaluation of short- and long-term career goals and development of a strategic plan to achieve those goals.

Prerequisite: BUS 2001.

3973 (3 hours)

Seminar in Business

Selected topics in business. Prerequisites: Business core and junior standing, or permission of instructor.

4001 (1 hour)

Business Applications

An application of business principles in the environment of a business organization. The student will complete an internship at an off-campus organization that is consistent with the Guidelines for Administration of Student Internship Programs of the Collins College of Business. Satisfactory completion of the internship will be determined based on the evaluations of the organization's internship supervisor and the faculty internship supervisor. Normally, an intern will work full- or part-time during 7 to 15 weeks. Internships usually will be undertaken after the student has completed at least 90 semester credits toward a degree program or three full academic years of study, including required core courses. The course is graded P (Pass) or F (Fail).

4973 (3 hours)

Seminar in Business

Selected topics in business. Prerequisites: Business core and senior standing, or permission of instructor.

School of Accounting and Management Information Systems

Director

Karen Cravens

Professors

Akhilesh Bajaj, Management Information Systems

Karen Cravens, Accounting

Lori Leonard, Management Information Systems

Tracy Manly, Accounting

Linda Nichols, Energy and Accounting

Gale Sullenberger, Management Information Systems

Associate Professors

Wray Bradley, Accounting

Steve Rockwell, Accounting

Applied Associate Professor

Mike McCrary, Accounting and

Management Information Systems

Assistant Professors

Salvatore Aurigemma, Management Information Systems

Jose Miranda, Accounting

Li Sun, Accounting

Applied Assistant Professors

Anna McColl, Accounting

Steve Platner, Management Information Systems

The learning objective and goals for the Bachelor of Science in Business Administration with a major in accounting or management information systems are:

Objective. We strive to provide our graduates with the skills, knowledge and professional orientation necessary to become successful business information professionals with the capability of using information technology in appropriate ways in a global business environment.

- **Learning Goal A.** Each student shall possess the knowledge necessary to become a successful professional.
- **Learning Goal B.** Each students shall possess the skills and professional orientation necessary to become a successful professional.
- **Learning Goal C.** Each student shall possess the capability of using information technology in appropriate ways in a global business environment.

Accounting

The Bachelor of Science in Business Administration with a major in accounting prepares students for the role of business information professionals with expertise in analysis, reporting, and translating complex information into critical knowledge. In addition to this requisite technical knowledge, graduates acquire a broad liberal education, an understanding of how information technology applies to business and accounting, effective personal skills, life-long learning skills, and a global perspective that will enable them to contribute to the profession and to succeed at increasing levels of responsibility in business and society.

Accounting Major Requirements (22 hours)

ACCT 3113, Intermediate Financial Accounting I.....	3
ACCT 3123, Intermediate Financial Accounting II.....	3
ACCT 3133, Cost Accounting.....	3
ACCT 4143, Accounting Information Systems	3
ACCT 4233, Topics in Federal Income Taxation	3
ACCT 4243, Auditing Assurance for Accounting Systems	3
ACCT Elective at the 3000 or 4000 level	3
MIS 3001, Advanced Spreadsheet Applications	1

Five-Year Joint Master in Accountancy (M.Acc.) and Accounting Program

This program allows exceptional TU undergraduate accounting majors to complete their undergraduate degree and a Master in Accountancy (MAcc) in a total of five years by double-counting three hours as undergraduate and graduate credit and by taking six hours of coursework in the summer. Undergraduate students who have taken the GMAT and have been admitted to the graduate program may take up to nine hours of graduate courses in their senior year of undergraduate work. Students may take ACCT 5333, Advanced Financial Reporting and Analysis, as an elective which also satisfies the requirement for the Master in Accountancy.

Accounting (ACCT)

2113 (3 hours)

Concepts in Accounting Information I

Addresses the creation and interpretation of basic financial statements for external users.

Prerequisite: MIS 1001.

2123 (3 hours)

Concepts in Accounting Information II

Addresses the development and use of accounting information for internal decision making. Prerequisite: ACCT 2113 with a grade of C or higher.

3113 (3 hours)

Intermediate Financial Accounting I

In-depth study of the theory, principles, and procedures of the measurement, recording, and reporting of financial accounting information according to current accounting principles. Prerequisite: ACCT 2123 with a grade of C or higher. Class is cross-listed for master's degree program in museum science and management program.

3123 (3 hours)

Intermediate Financial Accounting II

Continuation of ACCT 3113 focusing on the study of the theory, principles, and procedures of the measurement, recording, and reporting of financial accounting information according to current accounting principles. Prerequisite: ACCT 3113 with a grade of C or higher.

3133 (3 hours)

Cost Accounting

Fundamentals of accounting for decision-making including analyses related to budgeting, planning, and controlling operations. Prerequisite: ACCT 2123 with a grade of C or higher.

4023 (3 hours)

Tax Planning for Personal Investing

Provides a basic understanding of federal taxation issues related to investments, compensation, retirement, gift taxes, estate taxes, and wealth planning. Prerequisite: One course in federal taxation or completion of an online tax module contained in the course.

4083 (3 hours)

Professional Accounting Issues

Issues and forces influencing the development of both private and public elements of the

accounting profession. Topics include certification, specialization, ethics, legal liability, rulemaking processes, and extensions of the attest function. Prerequisite: ACCT 3123.

4143 (3 hours)

Accounting Information Systems

Systems analysis methodology applied to the creation and use of accounting information and concepts of internal control as they relate to the design, use and audit of accounting information systems. Prerequisite: ACCT 3113 with a grade of C or higher.

4153 (3 hours)

Analysis of Financial Statements

The analysis and interpretation of financial reports, utilizing actual statements, problems, and cases. Emphasis is on the analysis (as opposed to the construction) of financial statements. Prerequisite: ACCT 2123 with a grade of C or higher.

4163 (3 hours)

Financial Reporting in the Energy Industry

Financial analysis concepts from financial, managerial, cost, and tax accounting as applied to the energy industry. Includes an understanding of contracts, with related accounting treatment, common to the energy industry. Prerequisites: ACCT 2113 and 2123 (or equivalents).

4213 (3 hours)

Financial Accounting Research Applications

Impact of technical considerations of business events on financial statements. Includes conclusions and remedies of accounting theories that may conflict with one another. Inductive-deductive method of inquiry and empirical studies emphasized within a pragmatic framework. Prerequisite: ACCT 3123 with a grade of C or higher.

4223 (3 hours)

Internal Reporting Issues

Conceptual and practical aspects of designing and using management information systems for planning, controlling, and decision making in manufacturing, merchandising, service, and

not-for-profit organizations. Prerequisite: ACCT 3133 with a grade of C or higher.

4233 (3 hours)**Topics in Federal Income Taxation**

Principles and concepts of federal income taxation as applied to various taxable entities. Emphasis on tax planning and research skills to provide solutions for business and individual tax situations in a constantly changing business environment. Prerequisite: ACCT 2123 with a grade of C or higher.

4243 (3 hours)**Auditing Assurance for Accounting Systems**

Designing and auditing traditional automated systems and information-age systems. Focuses on impact of information technology on flow of information, business and accounting controls, auditing accounting systems, and financial and internal auditing issues. Prerequisite: ACCT 3113 with a grade of C or higher.

4253 (3 hours)**CPA Review Preparation**

Prepares the student to sit for the Uniform CPA exam by systematically reviewing topics covered in the exam. The primary goal of the

course is to take the rules and concepts studies in the accounting curriculum and incorporate them into a comprehensive understanding of the accounting framework. Prerequisite: Permission of instructor.

4973 (3 hours)**Seminar in Accounting**

Selected topics in accounting. Prerequisite: As determined by course instructor.

4983 (3 hours)**Internship in Accounting**

Applies accounting knowledge combined with an academic experience in a business entity setting. Graded P for pass (equivalent to an A or B) or F for fail. Prerequisite: Permission of instructor.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Offered to advanced undergraduate students for individual study in a specialized field of interest. Students plan their individual program of study and prepare a formal report of their work. Prerequisite: Permission of instructor, director of the School of Accounting and Management Information Systems, and associate dean.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5333 (3 hours)**Advanced Financial Reporting and Analysis**

Emphasis on effective business analysis and decision making using financial information. Includes accounting analysis for financing, investing, and operating activities, financial analysis for equity and credit decisions, and advanced financial reporting techniques useful for analysis.

Management Information Systems

The Bachelor of Science in Business Administration with a major in management information systems provides a basic understanding of the significant role of information technologies in the business world. Students develop the skills necessary to employ information technology resources with the objective of enhancing organization and user performance. The major qualifies students for positions as information systems professionals in all sectors of the economy.

Management Information Systems Major Requirements (25 hours)

MIS 2013, Business Programming Concepts I	3
MIS 3001, Introduction to Spreadsheets	1
MIS 3023, Business Programming Concepts II.....	3
MIS 3043, Telecommunications.....	3
MIS 3053, Database Design and Applications	3
MIS 4033, Business Programming Concepts III.....	3
MIS 4053, Systems Analysis and Design	3
MIS 4093, Systems Development Project	3
MIS elective (3000-4000).....	3

Management Information Systems (MIS)

1001 (1 hour)

Introduction to Spreadsheets

Introduces the use of Microsoft Office (Windows Explorer, Excel, PowerPoint) in a business environment. Focus on introducing students to the use of these tools in subsequent courses. Primary emphasis on Excel fundamentals. Pass/fail.

2003 (3 hours)

Introduction to Management Information Systems

Provides the foundation for understanding and analyzing information and systems in organizations. Basic tools and techniques for representing systems and further developing skills introduced in MIS 1001. Prerequisite: MIS 1001.

2013 (3 hours)

Business Programming Concepts I

First of a three-course study of programming logic, languages, conventions and standards, data and file structures, systems architectures and platforms, and fundamental IS knowledge and concepts. Includes both structured and Windows programming concepts to apply programming knowledge and logic skills using a variety of languages and tools. Prerequisite: MIS 1001.

3001 (1 hour)

Advanced Spreadsheet Applications

Students will use various advanced functions of spreadsheets that will allow them to make more efficient and effective business decisions. Students will further develop skills and gain knowledge through the use of hand-on exercises to be completed outside of class. Prerequisite: MIS 2003.

3023 (3 hours)

Business Programming Concepts II

Second of a three-course study of programming logic, languages, conventions and standards, data and file structures, systems architectures and platforms, and fundamental IS knowledge and concepts. Includes both structured and Windows programming concepts to apply programming knowledge and logic skills using a variety of languages and tools. Prerequisite: MIS 2013 with a grade of C or higher.

3043 (3 hours)

Telecommunications

Introduces business and organizational issues related to data and voice communication, including standards and technology used in telecommunications networks. Topics include hardware, software, and applications used for transmission and reception of information in

local- and wide-area telecommunications networks. Prerequisite: MIS 2003 with a grade of C or higher. (MIS majors may take MIS 2003 as a corequisite.)

3053 (3 hours)

Database Design and Applications

Examines organizational data needs, analysis and design of databases, retrieval of data using query languages, and administration of data resources within the organization. Students learn conceptual and logical data modeling techniques, and skills necessary to create, query, update and administer databases. Prerequisite: MIS 2013 with a grade of C or higher.

4033 (3 hours)

Business Programming Concepts III

Third of a three-course study of programming logic, languages, and platforms. Skills taught include creation of end-to-end business applications using multi-tier architectures. Prerequisites: MIS 3023 and 3053.

4053 (3 hours)

Systems Analysis and Design

Introduces the analysis and logical design of business processes and management information systems focusing on the systems development life cycle. Sample topics include development methodologies; project management; feasibility, cost benefit, and requirements analysis; modeling techniques; and documentation of current system and future system designs. Prerequisite or corequisite: MIS 3053.

4073 (3 hours)

Information Security

Provides a strong understanding of security threats and management. Topic areas include understanding the IT security threat environment, information security planning, elements of cryptography and cryptologic standards, firewalls, and application security. Course will also review recent relevant IT security news and incidents to identify respective threats, compounding factors, and

mitigation efforts. Prerequisite: MIS 3043 or permission of instructor.

4093 (3 hours)

Systems Development Project

Involves application of IS skills and knowledge developed throughout the curriculum. Students staff a systems analysis and design project team involving implementation of computer-based solutions to actual individual and organizational problems. Project management skills are emphasized. Prerequisites: MIS 3053 and 4053.

4133 (3 hours)

Software Systems

Provides a thorough understanding of various topics related to IS, such as enterprise resource planning systems, customer relationship management systems, supply chain management systems, data management, outsourcing, project management, and e-commerce management. Prerequisite: MIS 2003.

4243 (3 hours)

Concepts in Healthcare Informatics

Understanding of various topics that are fundamental to the healthcare delivery system, health information management, and health information systems. Prerequisites: MIS 3053.

4973 (3 hours)

Seminar in Management Information Systems

A critical study of selected topics in management information systems. Prerequisite: Permission of instructor.

4991, 4992, 4993 (1-3 hours)

Independent Study

Offered to advanced undergraduate students for individual study in a specialized field of interest. Students plan their individual program of study and prepare a formal report of their work. Prerequisite: Permission of instructor, director of the School of Accounting and Management Information Systems, and associate dean.

Economics

Chair

Chad Settle

Professors

William Dugger
Chad Settle
Steve Steib

Associate Professors

Scott Carter
Bobbie Horn

Assistant Professors

Matthew Hendricks
Yusi Ouyang

The Department of Economics of the Henry Kendall College of Arts and Sciences offers a B.S.B.A. within the Collins College of Business.

Economics Major (B.S.B.A. Program, 125 hours)

Students pursuing a B.S.B.A. in economics must adhere to Collins College of Business policies. The B.S.B.A. degree requires 125 hours comprised of: the Tulsa curriculum, general education electives, business core, free electives, and the following referenced economics major-specific courses. Course descriptions for economics courses can be found beginning on page 124 under the Henry Kendall College of Arts and Sciences.

Students will be assigned a faculty advisor from the Department of Economics in the Henry Kendall College of Arts and Sciences, but will be required to participate in Collins College of Business activities such as freshman and sophomore advisement and Collins College of Business registration.

Economics Major Requirements (19 hours)

ECON 3023, Macroeconomic Theory	3
ECON 3033, Microeconomic Theory	3
ECON 4053, History of Economic Theory	3
Economics electives at the 3000-4000 level.....	9
MIS 3001, Advanced Spreadsheet Applications.....	1

School of Energy Economics, Policy and Commerce

Director

Tim Coburn

Professors

Tim Coburn, Energy and Operations
Management

J. Markham Collins, Finance and
Energy

Linda Nichols, Energy and Accounting

Ronald Ripple, Energy Business and
Finance

Assistant Professor

Jeffrey Paul, Management and Energy

Research Assistant Professor

Roger Stern, Energy

Applied Assistant Professors

William Brice Collier, Energy and
Finance

Thomas Seng, Energy Business

Executive-in-Residence

Don Hansen, Energy Law

Affiliated Faculty

Ted Jacobs, Director, Energy
Management Program

The Bachelor of Science in Business Administration with a major in energy management is unique and multidisciplinary, utilizing required energy-related coursework from all three of the University's undergraduate colleges in addition to graduate-level law courses. Students will choose either the upstream track (exploration and production) with emphasis on business law, or the midstream track (trading of energy commodities) which includes an automatic minor in finance. The curriculum provides the standard core of business courses for the B.S.B.A. degree, with additional upper-division coursework and electives in accounting, finance, business law, geology, petroleum engineering, energy management, and economics.

Students who complete the requirements for the Bachelor of Science in Business Administration with a major in energy management will:

- Possess a strong understanding of the business side of the energy industry and acquire a fundamental technical exposure to engineering and geological concepts,
- Learn the history, terminology and various facets of the energy industry from industry experts,
- Learn about energy contracts commonly used throughout the energy industry,
- Learn accounting principles and practices applicable primarily to the energy industry, and
- Gain a fundamental knowledge of technical petroleum engineering concepts to complement their energy-related business courses.

Energy Management Major Requirements (31 hours)

PE 3553, Practice of Petroleum Engineering	3
EMGT 2013, Practical Issues in Energy Management	3
BL/EMGT 3013, Oil, Gas, and Environmental Law	3
BL 3023, Commercial Transactions	3
FIN 3023, Financial Institutions and Markets I	3
FIN 3083, Investment Analysis and Portfolio Management I	3
GEOL 3153, Sedimentary Rocks and Processes	3
GEOL 4063, Petroleum Geology	3
ACCT 4163, Financial Reporting in the Energy Industry	3
EMGT/IB 4023, Global Energy Decisions	3
MIS 3001, Advanced Spreadsheet Applications	1

Required Block Courses for Energy Management (10 hours)

GEOL 1014, Physical Geology (Block III)	4
CHEM 2023, Chemical Concepts of Energy Technology (Block III)	3
ECON 3123, Resources and the Environment (Block II) <i>or</i> POL 4083, The Politics of Natural Resource Wealth (Block II)	3

Energy Management Track Requirements

Students majoring in energy management must complete the requirements of either the midstream track or upstream track by selecting from the following courses for the nine hours of required energy-related electives. Exceptions must be approved by the director of the energy management program and the Assistant Dean for Undergraduate Programs.

Midstream Energy-related Track Electives

Choose 9 hours from the following (must include EMGT 4013):

- EMGT 4013, Fundamentals in Energy Commodity Trading
- FIN 4013, Planning and Control of Capital Expenditures
- FIN 4033, Risk Management
- FIN 4063, International Business Finance
- FIN 4113, Student Investment Fund

Upstream Energy-related Track Electives

Choose 9-10 hours from the following (must include BL 4013):

- BUS 4973, Seminar: Oil in Economic and Foreign Policy History
- BL 4013, Real Property
- ECON 3123, Resources and the Environment
- EMGT 4981-3, Energy-related Internship
- EMGT 4013, Fundamentals in Energy Commodity Trading
- LAW 5603, Advanced Oil and Gas Law
- LAW 5753, Basic Oil and Gas Law*
- MGT 4023, Negotiations and Management Skills
- PE 3003, Petroleum Economics and Property Evaluation
- POL 4083, The Politics of Natural Resource Wealth

*Requires senior standing and permission of director of the energy management program.

Energy Management (EMGT)

2013 (3 hours)

Practical Issues in Energy Management

Provides in-depth history and overview of the oil and gas industry both internationally and in Oklahoma. Covers topics in current events in addition to exposure to the contracts and terminology inherent to the energy industry. Alternative forms of energy will also be introduced.

3013 (3 hours)

Oil, Gas and Environmental Law

Provides an understanding of fundamental oil and gas law. Also covers analysis of the rights of mineral ownership, transfers of interest, and the doctrine of correlative rights, in addition to examining particular contracts associated with the oil and gas industry. Prerequisites: EMGT 2013 and BL 2013, each with a grade of C or higher. Same as BL 3013.

4013 (3 hours)

Fundamentals of Energy Commodity Trading

Provides an understanding of the logistics and value chain associated with crude oil, natural gas, gasoline, heating oil, and natural gas liquids (NGLs). Covers the regulatory background of the industry, physical and financial trading and hedging (NYMEX contracts, swaps, spreads, and options), and elementary technical analysis. Students will experience “hands-on” trading using a “real-

time” energy commodity trading simulator.

Additional topics may include risk control, power trading, and weather derivatives.

Prerequisite: FIN 3003 with a grade of C or higher. Corequisite: FIN 3023.

4023 (3 hours)

Global Energy Decisions

Characterizes economics, politics and history of state energy policies, particularly as exemplified by state-run oil companies. Also covers competition between fuels (e.g. nuclear versus solar) and competition between energy producer countries (e.g. Russian natural gas versus U.S. coal in European electric power markets). Prerequisite: Senior standing. Same as IB 4023.

4973 (3 hours)

Seminar in Energy Management

Selected topics in energy management.

Prerequisites: Business core and senior standing, or permission of instructor.

4981, 4982, 4983 (1-3 hours)

Energy-related Internship

Provides personal hands-on experience in the energy industry by combining the traditional academic classroom concepts with practical experience gained through the internship.

Prerequisite: EMGT 2013 with a grade of C or higher and approval of the director of energy management prior to beginning internship.

School of Finance, Operations Management and International Business

Director

Richard Burgess, Finance

Professors

Richard Burgess, Finance

Wen-Chyuan Chiang, Operations Management

Tim Coburn, Energy and Operations Management

J. Markham Collins, Finance and International Business

Ronald Ripple, Energy Business and Finance

Robert Russell, Operations Management

Gale Sullenberger, Operations Management

Timothy Urban, Operations Management

Associate Professor

Larry Johnson, Finance

Applied Associate Professor

Richard Gebhart, Operations Management

Assistant Professors

Patty Bick, Finance

Matthew Crook, Finance

Anila Madhan, Finance

Mike Troilo, International Business

Brian Walkup, Finance

Applied Assistant Professor

William Brice Collier, Energy and Finance

Finance

The Bachelor of Science in Business Administration with a major in finance places major emphasis on three areas of finance: financial management, investments and portfolio management, and financial markets and institutions. The student may select a general program or may structure his or her program around one of these specific areas: corporate finance, energy finance, international finance, or investments and portfolio management. Each course of study prepares students to approach financial decision-making by analyzing financial data and market information within a framework of economic theory, and to deal with a wide range of financial problems, including those of business, financial institutions, and governments.

Finance Major Learning Objectives

- Instill in students critical and analytical thinking skills. Measurement: Students in FIN 3003, Business Finance, will satisfactorily complete a project and/or essay questions on select quizzes as a part of their overall grade. The project or essay questions will require ratio analysis for comparative purposes.
- Provide all students with the analytical skills necessary to make effective business decisions. Measurement: Students enrolled in FIN 4013, Planning and Control of Capital Expenditures, will complete case assignments in the areas of capital budget, cost of capital, capital structure, and payout policy.

Finance Major Requirements (25 hours)

FIN 3023, Financial Institutions and Markets I	3
FIN 3083, Investment Analysis and Portfolio Management I	3
FIN 4013, Planning and Control of Capital Expenditures	3
FIN 4033, Risk Management.....	3
ACCT 4153, Analysis of Financial Statements	3
MIS 3001, Advanced Spreadsheet Applications	1
Major electives (3000 or 4000 level)	9

Major electives must include one finance elective and two electives chosen from accounting, business law, finance, management information systems, quantitative methods, economics, math, or statistics.

Finance (FIN)

2063 (3 hours)

Personal Financial Planning and Investing

The financial system; the financial planning process; understanding financial statements; setting financial goals, strategies, and budgets; time value of money; tax management; managing credit; investment planning; stocks; bonds; mutual funds; retirement planning; and estate planning. May not be taken as a finance elective.

3003 (3 hours)

Business Finance

The financial management of business concerns, with primary emphasis on maintaining solvency and maximizing market value. Topics include estimation of future cash flows through the structure of current assets, evaluating profitability of funds commitments, the term structure of debt financing, and the preferred mix of debt and equity. Prerequisites: Junior standing; ENGL 1033, ACCT 2113 and 2123, ECON 2013 and 2023, MATH 1093 and 1103, BUS 1001, BUS 2001, BL 2013, MIS 1001, and QM 2013 and 2023 with grades of C or higher.

3023 (3 hours)

Financial Institutions and Markets I

Interaction among financial institutions, financial markets, and the global economy. Emphasis on types of financial institutions, basic risk management, technological and regulatory changes taking place among financial institutions, and securities used to raise funds. Prerequisite: FIN 3003 with a grade of C or higher.

3083 (3 hours)

Investment Analysis and Portfolio Management I

Fundamental principles of investment decision-making under uncertainty; risk and return considerations of portfolios; equilibrium economic pricing models for financial assets. Portfolio allocation models are developed to explain the behavior of investors. Computer databases and software packages are used to evaluate these strategies in a realistic decision-making setting. Prerequisite: FIN 3003 with a grade of C or higher.

4003 (3 hours)

Working Capital Management

Short-term financial management of a firm; especially financial analysis of past, present, and future operations, cash flow analysis, and current account management. Exchange rates, currency risk, hedging, and other global topics are integrated throughout the course. Decision-making using benefit/cost analysis is stressed. Prerequisite: FIN 3003 with a grade of C or higher.

4013 (3 hours)

Planning and Control of Capital Expenditures

Financial management of business with emphasis on maximizing a firm's market value. Topics include goals of the firm, time value of money, valuation, cost of capital, capital structure, cash flows, risk and return, leasing, mergers, and bankruptcy. International aspects of finance are integrated throughout the course. Prerequisites: FIN 3003 with a grade of C or higher and FIN 3083. Seniors may take FIN 3083 as a corequisite.

4033 (3 hours)**Risk Management**

Analysis and management of investment risks, with special attention to arbitrage, hedging, and investment opportunities in financial derivatives markets. These markets are used primarily by hedgers to manage risk, by arbitrageurs to profit on inefficient markets, and by speculators to profit on predictions of price movements. Prerequisite: FIN 3023. Prerequisite or corequisite: FIN 3083.

4043 (3 hours)**Financial Institutions and Markets II**

Continuation of Financial Institutions and Markets I with greater emphasis on asset/liability management for financial institutions. Topics include asset-backed securitization, interest rate futures, options and swaps, foreign exchange risk management, and financial engineering. Case studies are integral to the course. Prerequisite: FIN 3023.

4063 (3 hours)**International Business Finance**

Financial analysis and decision-making in a global context. Emphasis on foreign currency risk, comparative practices, political risk, global financial markets, and methods to measure and manage company exposure to international risks. Prerequisite: FIN 3003 with a grade of C or higher.

4083 (3 hours)**Investment Analysis and Portfolio Management II**

Primary focus on the nature of portfolios, rather than individual financial assets. Portfolio allocation models are developed to

explain the behavior of investors. Computer databases and software packages are used extensively to evaluate these strategies in a realistic decision-making setting. Prerequisite: FIN 3083.

4113 (3 hours)**Student Investment Fund I**

Actual management of a financial asset portfolio. Students determine the investment style, allocate assets, select securities, and place the trades. Students are responsible for maintaining and updating all policies, procedures, accounting records, and a web site. Prerequisites: FIN 3083, an application form, and permission of instructor.

4123 (3 hours)**Student Investment Fund II**

A continuation of Student Investment Fund I. Prerequisite: FIN 4113.

4973 (3 hours)**Seminar in Finance**

Selected topics in finance. Prerequisites: FIN 3003 with a grade of C or higher; permission of instructor.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Offered to advanced undergraduate students for individual study in a specialized field of interest. Students individually plan their programs of study and prepare a formal report of their work. Prerequisites: FIN 3003 with a grade of C or higher; permission of instructor, School director, and associate dean.

Quantitative Methods (QM)

2013 (3 hours)

Statistics I

Introduction to statistical methods with emphasis on data distribution characteristics, probability, sampling, distributions, estimation, and hypothesis testing. Prerequisites: MIS 1001; MATH 1093 with a grade of C or higher.

2023 (3 hours)

Statistics II

Analysis and application of univariate and multivariate statistical methods. Emphasis on analysis of variance, regression, correlation, non-parametric methods, time series, and forecasting. Prerequisite: QM 2013 with a grade of C or higher.

3023 (3 hours)

Operations Management

Introduction to effective management of manufacturing and service systems. Topics include productivity, process and job design, capacity planning, distribution, supply chain management, aggregate production planning, inventory control, scheduling, quality assurance, and operations strategy.

Prerequisites: Junior standing; ENGL 1033, ACCT 2113 and 2123, ECON 2013 and 2023, MATH 1093 and 1103, BUS 1001, BUS 2001, BL 2013, MIS 1001, and QM 2013 and 2023 with grades of C or higher.

Management and Marketing

Chair

Ralph W. Jackson

Professors

Saeed Samiee, Marketing

Larry Wofford, Entrepreneurship

Associate Professors

Brian Chabowski, Marketing

Ralph W. Jackson, Marketing

Arthur Rasher, Management

Charles Wood, Marketing

Assistant Professors

Mary Dana Laird, Management

Jeffrey Paul, Management and Energy

Jim Senese, Management

James Zboja, Marketing

Affiliated Faculty

Claire Cornell, Entrepreneurship

Management

The Bachelor of Science in Business Administration with major in management emphasizes the development of skills and knowledge necessary for effectively managing people and facilitating organizational change. Preparation is for employment as a manager or for graduate study. Students may choose either the general management degree, or one of three specializations.

Management Major Requirements (19 hours)

Management Core:

MGT 3063, Organizational Behavior..... 3

MGT 4023, Negotiation and Management Skills..... 3

MIS 3001, Advanced Spreadsheet Applications..... 1

Additional Major Requirements:

Management electives at the 3000-4000 level..... 12

Specializations within the Management Major

Business Law (19 hours)

Emphasis on issues and practices that reduce the risks of operating in today’s litigious business climate.

Business Law Specialization Requirements

Management Core (MGT 3063, MGT 4023, MIS 3001)	7
BL 3033, Employment Law	3
BL 4113, Business Law for Entrepreneurs and Family-Owned Businesses	3
Management elective at 3000-4000 level.....	3

Choose one from the following:

- MGT 3103, Human Resource Management
- MGT 3143, International Management
- MGT/MKTG 4013, Social Responsibility in Business
- MGT 4033, Family-Owned Business Management
- MGT 4053, Entrepreneurship
- MGT 4143, Governor’s Cup Business Plan Competition
- MGT 4203, Venture Startup Evaluation

Law-related elective	3
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Choose one from the following:

- MGT/MKTG 4013, Social Responsibility in Business
- SOC 4013, Sociology of Law *or* a LAW course, with approval

Entrepreneurship and Family Business Management (19 hours)

Examination of the unique characteristics and issues of succession, conflict, leadership, and strategic management as they relate to entrepreneurial and family business enterprises.

Entrepreneurship and Family Business Management Specialization Requirements

Management Core (MGT 3063, MGT 4023, MIS 3001)	7
BL 4113, Business Law for Entrepreneurs and Family-owned Businesses	3
MGT 4053, Entrepreneurship.....	3
MGT 4203, Venture Startup Evaluation	3
Management elective at 3000-4000 level	3
Choose one from:	
BL 3033, Employment Law	
BL 4013, Real Property	
BL 4973, Seminar in Business Law	
IB 3013, Comparative Culture and International Business	
IB 4013, Topics in International Business	
MGT 3103, Human Resource Management	
MGT 3143, International Management	
MGT 3973, Seminar in Management	
MGT/MKTG 4013, Social Responsibility in Business	
MGT 4053, Entrepreneurship	
MGT 4143, Governor’s Cup Business Plan Competition	
MGT 4193, Social Entrepreneurship	
MGT 4203, Venture Startup Evaluation	
MGT 4503, Internship in Management	
MGT 4973, Seminar in Management	

Human Resource Management (19 hours)

Focuses on the challenges facing managers related to the recruitment and selection of the most talented people to operate an organization, as well as the most effective approaches to leading, motivating and retraining people in an organization.

Human Resource Management Specialization Requirements

Management Core (MGT 3063, MGT 4023, MIS 3001)	7
BL 3033, Employment Law.....	3
MGT 3103, Human Resource Management.....	3
Management electives at 3000-4000 level.....	6
Choose two from:	
BL 4113, Business Law for Entrepreneurs and Family-owned Businesses	
MGT 3143, International Management	
MGT/MKTG 4013, Social Responsibility in Business	
MGT 4033, Family-Owned Business Management	
MGT 4053, Entrepreneurship	
MGT 4203, Venture Startup Evaluation	
PSY 3073, Industrial/Organizational Psychology	
COM 3943, Interviewers and Interviewing	

Management (MGT)

2043 (3 hours)

The Entrepreneurship Experience

An introduction to innovation, the entrepreneurial mindset, and the entrepreneurship process. Attention will be paid to creativity and innovation, preliminary feasibility analysis, business and opportunity shaping, business model development, business plan basics, marketing and industry analysis, legal analysis, basic taxation, operations, financial and risk analysis, and strategy development and implementation. Prerequisite: Permission of instructor.

3003 (3 hours)

Principles of Management

Survey of principles, philosophy, problems, and techniques of planning, directing, controlling, motivating, staffing, and other management functions as applied to organizations. Examines human behavior with emphasis on problems of motivation, leadership, authority relations and their interactions with structure to achieve effectiveness and efficiency in organizations. Prerequisites: Junior standing; ENGL 1033, ACCT 2113 and 2123, ECON 2013 and 2023, MATH 1093 and 1103, BUS 1001, BUS 2001, BL 2013, MIS 1001, and QM 2013 and 2023 with grades of C or higher.

3063 (3 hours)

Organizational Behavior

Behavioral science approaches to understanding and managing organizations; emphasis on developing theoretical understanding and behavioral capability to deal with issues at individual, work group, or organizational levels. Models of growth, structures, decisions, leadership, communication, conflict, change, and other variables. Prerequisite: MGT 3003 with a grade of C or higher.

3103 (3 hours)

Human Resource Management

Hiring, developing, and facilitating productive employees, with attention to policies and practices in drug testing, lay-offs, employee rights, privacy and security, compensation, and performance evaluation. The roles of personnel departments, organizational strategic planners, and line supervisors are

considered. Prerequisite: MGT 3003 with a grade of C or higher.

3143 (3 hours)

International Management

Examines the unique issues involved with managing business organizations in non-native cultures. Students learn the problems and opportunities arising in management situations where more than one culture is represented. Various strategies for maximizing effectiveness in these situations are also explored. Prerequisite: MGT 3003 with a grade of C or higher.

3513 (3 hours)

Student Practicum

Allows students to work in small interdisciplinary teams to connect their knowledge and interests to complete a service learning project. Working closely with a team of industry and faculty mentors, students will propose and independently implement an innovation of their own creation that launches a new enterprise or benefits an area business or non-profit organization. Allows students to develop their interests and passions, employ the tools and lessons learned in earlier courses, and have a "capstone" experience in the Certificate. Prerequisites: BUS 1001, BUS 2001, MKTG 2013, MGT 2043 and permission of instructor.

3973 (3 hours)

Seminar in Management

Selected topics in management. Prerequisite: Junior standing or permission of instructor.

3993 (3 hours)

Independent Study

Offered to advanced undergraduate students for individual study in a specialized field of interest. Students individually plan their programs of study and prepare a formal report of their work. Prerequisite: Permission of instructor, department chair, and associate dean.

4013 (3 hours)

Social Responsibility in Business

Examines the place of ethics and social responsibility in business decision-making. Focuses on the impact of ethical problems and dilemmas on a firm's stakeholders.

Prerequisites: MGT 3003 and MKTG 3003, each with a grade of C or higher. Same as MKTG 4013.

4023 (3 hours)**Negotiation and Management Skills**

Theory, research, and practice of negotiation. Topics include social dilemmas, distributive bargaining, integrative arrangements, multiple-party scenarios, and third party interventions. Emphasis on related skills, such as self-awareness, communication, stress management, decision-making, and conflict resolution. Prerequisite: MGT 3003 with a grade of C or higher.

4033 (3 hours)**Family-Owned Business Management**

Unique personal, interpersonal, family, business, and growth issues associated with a family-owned and managed firm. Increases understanding of the family business as a dynamic entity, explores family systems and their impact on family business management, and studies important transitions and life cycles in family businesses in preparation for succession and leadership development. Prerequisite: MGT 3003 with a grade of C or higher.

4053 (3 hours)**Entrepreneurship**

Research and principles of successful entrepreneurship and intrapreneurship. Topics include characteristics of successful entrepreneurs, assessment of venture opportunity, marketing plan development, and creation of a business plan. Prerequisite: MGT 3003 with a grade of C or higher.

4073 (3 hours)**Strategic Management**

Addresses concepts for integrative decision-making within the organization, including the roles and problems of general managers. Major topics include environment scanning, competitive advantage, corporate-level strategies, business-level strategies, strategy implementation, and control systems. Prerequisites: FIN 3003, MKTG 3003, QM 3023, MGT 3003, MIS 2003, each with a grade of C or higher, and senior standing.

4143 (3 hours)**Governor's Cup Business Plan Competition**

Self-directed student teams work with the instructor, community mentors, and university mentors to develop a written and oral business plan presentation with the intent of launching a successful new venture. Teams will conduct independent, in-depth research of the industry, market, competition, risks, financial statements, and funding for the project. Prerequisites: Junior standing; permission of instructor.

4193 (3 hours)**Social Entrepreneurship**

Provides an understanding of how the entrepreneurial mindset and entrepreneurial process may be used to improve the performance of ventures with a social mission. Concepts of innovation, social mission, vision, social return, business model design, strategy formulation, resource development, and others are considered. Prerequisite: Junior standing.

4203 (3 hours)**Venture Startup Evaluation**

Provides a thorough understanding of the criteria used by investors when funding new companies. Concepts include diligence, value, demand-driven or supply-driven opportunity, infrastructure, management team, financial viability, timetable, internal and external risk evaluation, contingency plans, competition, and growth to change. Prerequisite: MGT 3003 with a grade of C or higher.

4213 (3 hours)**Not-for-profit Practicum**

Directed project course involves a student team acting as consultants for local not-for-profit organizations. Students will complete a semester-long project aimed at solving some business-related problem for the client firm. Project will be managed through Studio Blue. Prerequisites: Senior standing and enrollment in Not-for-profit Certificate program. Same as MKTG 4213.

4503 (3 hours)**Internship in Management**

Combines work experience and academic experience in the area of human resources, family-owned business, business law, sports,

or general management. Prerequisite:
Approval of instructor prior to beginning the
internship.

4973 (3 hours)**Seminar in Management**

Selected topics in management. Prerequisite:
Senior standing or permission of instructor.

4993 (3 hours)**Independent Study**

Independent or directed study. Prerequisites:
MGT 3003 with a grade of C or higher and
permission of instructor, department chair,
and associate dean.

Marketing

The Bachelor of Science in Business Administration with a major in marketing equips the student with the latest, cutting-edge concepts in marketing as well as providing the opportunity to develop his or her creative problem-solving skills and the chance to hone communication skills so that he or she can effectively convey concepts and solutions that actually work. The program prepares the student to be a leader in marketing and sales departments of domestic and international firms through hands-on, real-world projects.

Marketing Major Requirements (22 hours)

Marketing Core:

MKTG 3013, Consumer Behavior	3
MKTG 3043, Sales and Sales Management	3
MKTG 3073, Marketing Research	3
MKTG 4083, Marketing Management	3
MIS 3001, Advanced Spreadsheet Applications.....	1
Marketing electives at 3000-4000 level:	
Electives selected in consultation with marketing department chair	9

Marketing (MKTG)

2013 (3 hours)

Innovation and Qualitative Methods

Students will learn the creative process and use ideation tools, brainstorming sessions, qualitative research tools, and experience with real companies to develop practical and innovative solutions to business problems. A portfolio will be developed that showcases problems that were explored, possible solutions, and results of solutions that were implemented. Prerequisites: BUS 1001 and permission of instructor. This course may not be used to fulfill the requirements of the marketing major.

3003 (3 hours)

Principles of Marketing

Application of managerial approach to the study of marketing, including consumer behavior, product strategy, the selection of distribution channels, pricing, and promotion with emphasis on the creation of effective marketing strategies. Prerequisites: Junior standing; ENGL 1033, ACCT 2113 and 2123, ECON 2013 and 2023, MATH 1093 and 1103, BUS 1001, BUS 2001, BL 2013, MIS 1001, and QM 2013 and 2023 with grades of C or higher. Non-business students pursuing a marketing minor, arts management major, or organizational studies major must have junior

standing and complete the following prerequisites with a grade of C or higher before enrolling in MKTG 3003, ACCT 2113, ECON 2023, and QM 2013.

3013 (3 hours)

Consumer Behavior

Analysis of the nature of the buying process; the psychological, social, and economic influences affecting consumer choice, particularly from the perspective of a manager in marketing strategy development. Prerequisite: MKTG 3003 with a grade of C or higher.

3023 (3 hours)

Marketing Channels

Alternative marketing channels connecting producer and consumer; characteristics of different marketing institutions; and recent trends in channels and institutions. Prerequisite: MKTG 3003 with a grade of C or higher.

3033 (3 hours)

Integrated Marketing Communications

Addresses the coordinated use of five major promotional elements: advertising, promotions, public relations, personal selling, and direct marketing. Prerequisite: MKTG 3003 with a grade of C or higher.

3043 (3 hours)**Sales and Sales Management**

Principles, methods, and problems in the management of a sales organization. Covers the selling process and the job of the sales manager. Examines the process of developing partnerships with customers and coordinating sales with other functional areas. Prerequisite: MKTG 3003 with a grade of C or higher.

3053 (3 hours)**Retail Management**

Managerial decisions, finance, retail mathematics, merchandise control, legal overview, promotion-advertising, and consumer behavior as it applies to retailing problems. Prerequisite: MKTG 3003 with a grade of C or higher.

3063 (3 hours)**Fundamentals of Not-for-Profit Marketing**

Introduces the non-business student to the basics of marketing in the not-for-profit arena. The course will not only delve into the theoretical precepts of marketing, but also will address the practical applications of these in not-for-profit organizations. Differences and similarities between marketing in businesses and in not-for-profits will be highlighted.

3073 (3 hours)**Marketing Research**

The research process with emphasis on evaluation and interpretation of marketing research. Prerequisites: MKTG 3003 with a grade of C or higher.

3083 (3 hours)**Principles of Advertising**

Emphasis on the theoretical and practical role of advertising as it fulfills corporate marketing strategies. Prerequisite: MKTG 3003 with a grade of C or higher.

3103 (3 hours)**Marketing Innovation Development**

Insights into the creative process and how creativity is used to develop innovative solutions to marketing problems as well as innovative products to address market needs. Makes use of hands-on projects to solve real-world marketing problems through stimulating the creative problem-solving process. Prerequisite: MKTG 3003 with a grade of C or higher.

4013 (3 hours)**Social Responsibility in Business**

Examines the place of ethics and social responsibility in business decision-making. Focuses on the impact of ethical problems and dilemmas on a firm's stakeholders. Prerequisites: MGT 3003 and MKTG 3003, each with a grade of C or higher. Same as MGT 4013.

4033 (3 hours)**Business to Business Marketing**

An exploration of the world of marketing to organizations, and how that is different from marketing to consumers. Emphasis will be placed on the importance of "partnering" with customers. Prerequisite: MKTG 3003 with a grade of C or higher.

4043 (3 hours)**Services Marketing**

Introduces, discusses, and analyzes several topics important to service businesses, such as the unique challenges involved in marketing and managing services, the potential competitive advantage of service, and the critical roles of employees and customers in service delivery, customer satisfaction, and service recovery. Prerequisite: MKTG 3003 with a grade of C or higher.

4083 (3 hours)**Marketing Management**

Examines the marketing managerial decision-making process, with emphasis on problem structuring and evaluation. Requires creative application of knowledge acquired in other business areas. Prerequisites: MKTG 3013 and 3073.

4093 (3 hours)**International Marketing**

International marketing operations, focusing on the modification of marketing thinking and practice occasioned by international cultural, legal, and other environmental differences. Prerequisite: MKTG 3003 with a grade of C or higher.

4213 (3 hours)**Not-for-Profit Practicum**

Directed project course involves a student team acting as consultants for local not-for-profit organizations. Students will complete a semester-long project aimed at solving some business-related problem for the client firm.

This project will be managed through Studio Blue. Prerequisites: Senior standing and enrollment in Not-for-Profit Certificate program. Same as MGT 4213.

4503 (3 hours)

Internship in Marketing

Combines work experience and academic experience in the area of marketing. Prerequisite: Approval of instructor prior to beginning internship.

4973 (3 hours)

Seminar in Marketing

Selected topics in marketing. Prerequisite: MKTG 3003 with a grade of C or higher.

4991, 4992, 4993 (1-3 hours)

Independent Study

Independent or directed study. Prerequisites: MKTG 3003 with a grade of C or higher and permission of instructor, department chair, and associate dean.

Business Law (BL)

2013 (3 hours)

Legal Environment of Business

Introduction to the American legal system, enabling the student to appreciate the legal environment in which he/she will practice his/her chosen profession. Includes the study of contracts, torts, property, ADR, criminal law, wills, the trial system, property, agency, antitrust, environmental law, consumer protection, cyberlaw, administrative law, and international business law. Prerequisite: Sophomore standing.

3013 (3 hours)

Oil, Gas and Environmental Law

Provides an understanding of fundamental oil and gas law. Also covers analysis of the rights of mineral ownership, transfers of interest, and the doctrine of correlative rights, in addition to examining particular contracts associated with the oil and gas industry. Prerequisite: EMGT 2013 with a grade of C or higher. Same as EMGT 3013.

3023 (3 hours)

Commercial Transactions

A comprehensive survey of commercial transactions, including the law of sales, warranties, risk of loss, negotiable instruments, bank collections and deposits, electronic fund transfers, secured transactions and bankruptcy. Prerequisite: BL 2013.

3033 (3 hours)

Employment Law

Identifies legal issues and ways to be proactive in creating employment environments that comply with the many laws that apply to this increasingly "legally defined" area of business, as well as how to respond to inevitable employment disputes. Prerequisites: BL 2013 and MGT 3003, each with a grade of C or higher.

3043 (3 hours)

The Law and Not-for-profit Organizations

In addition to the laws regulating commercial enterprises, not-for-profit organizations face a myriad of regulations specific to them. Designed to be an overview of the laws unique to the nonprofit sector, and will provide students with insight into avoiding legal liability.

3053 (3 hours)

Comparative International Business Law

The study of comparative business law in the following essential areas: international organizations, treaties, tools of international business law, economics, finance and taxation, business structures, country profiles, and a special emphasis on employment law.

4013 (3 hours)

Real Property

The study of real property, with emphasis on sources of law, ownership interests, encumbrances, easements and licenses, contracts, deeds, environmental issues, title examination and insurance, leases, surveys, and land descriptions. Prerequisite: BL 2013.

4113 (3 hours)

Business Law for Entrepreneurs and Family-owned Businesses

Legal obstacles that family business owners face, ranging from acquiring licenses and permits, leasing property, selection and working with attorneys, patenting a product, dealing with credit and collections, and similar issues, as they apply specifically to family businesspeople and entrepreneurs. Prerequisites: BL 2013 and MGT 3003, each with a grade of C or higher, and junior standing.

4973 (3 hours)

Seminar in Business Law

Selected topics in Business Law. Prerequisites: Business Core and senior standing, or permission of instructor.

Bachelor of Science in International Business and Language

The Bachelor of Science in International Business and Language (B.S.I.B.L.) degree combines the business core, emphasis on international business, and language proficiency in Chinese, French, German, Russian, or Spanish.

Educational objectives for the Bachelor of Science in International Business and Language include:

- Developing students who have fluency in a target language (Chinese, French, German, Spanish, and Russian),
- Developing students who understand the effects of multiple national economies, political and legal systems, and regulatory bodies on firm management and performance,
- Developing students who have cultural awareness and sensitivity in general and specific awareness of the culture in a country or countries where the student's target language is the dominate language,
- Presenting opportunities in and strongly encourage students to participate in study abroad programs,
- Providing students with opportunities for internationally focused, career-oriented experiences such as internships, and
- Preparing students for opportunities in international business and graduate education in business or international relations.

Degree Requirements

The Bachelor of Science in International Business and Language degree requires successful completion of 125 hours of coursework as detailed below:

I. Tulsa Curriculum (45 hours)

Every undergraduate must fulfill the requirements of the Tulsa curriculum, which has two parts: the core curriculum and the general curriculum.

A. Core Curriculum (20 hours)

Writing: ENGL 1033, Exposition and Argumentation, and ENGL 3003, Writing for the Professions

Mathematics: MATH 1093, Mathematics with Applications, and MATH 1103, Basic Calculus, or higher-level math

Language: Students complete or show proficiency through the second year of Chinese, French, German, Russian, or Spanish. Students who enroll in a language course above 1004 and complete the course with a grade of C or higher will receive "delayed proficiency credit" for the previous course as well. Some limits apply.

B. General Curriculum (Blocks) (25 hours)

Block I, Aesthetic Inquiry and Creative Experience.....	6
Block II, Historical and Social Interpretation.....	12
(ECON 2013, ECON 2023, and six other hours*; students who are required to take 2003 and 2013 language courses may use them as their remaining Block II courses.)	
Block III, Scientific Investigation	7
(One hour of laboratory or field experience required)	

II. Free Elective (3 hours)

III. Business Core (37 hours)

Business majors must earn a grade of C or higher in each of the business core courses in order to meet requirements for graduation.

A. Freshman Core (2 hours)

BUS 1001, Business Orientation and Planning for Success (pass/fail)
MIS 1001, Introduction to Spreadsheets

B. Sophomore Core (19 hours not including ECON 2013 and 2023)

ACCT 2113, Concepts in Accounting Information I
ACCT 2123, Concepts in Accounting Information II
BL 2013, Legal Environment of Business
BUS 2001, Essential Business Skill Development
ECON 2013, Principles of Economics I: Macroeconomics*
ECON 2023, Principles of Economics II: Microeconomics*
MIS 2003, Introduction to Management Information Systems
QM 2013, Statistics I
QM 2023, Statistics II

C. Junior/Senior Level Core (16 hours)

BUS 3001, Strategies for Career Success
FIN 3003, Business Finance
MGT 3003, Principles of Management
MKTG 3003, Principles of Marketing
QM 3023, Operations Management
MGT 4073, Strategic Management

IV. International Business Major (13 hours)

IB 3013, Comparative Culture and International Business *or*
IB 4013, Topics in International Business
ECON 3083, International Economics
FIN 4063, International Business Finance
MIS 3001, Advanced Spreadsheet Applications
MKTG 4093, International Marketing

V. Language Concentration (27 hours)**

Language concentrations include 27 hours at the 3000-4000 levels as specified by the requirements for the major in the language selected, including an on-campus business language course. An internship in a country where the language is used extensively may be taken as part of the language concentration.

A foreign study experience and/or a foreign practical business experience of at least six weeks, approved by the faculty and the TU Center for Global Education, is required.

*ECON 2013 and 2023 are required courses in the business core which are also used to fulfill part of the Tulsa curriculum Block II requirement.

**In most cases, completion of two additional specified language courses will allow the student to earn a second degree, Bachelor of Arts, with a major in the selected language. Contact collegiate advisors for further information.

Bachelor of Science in International Business and Language—American Track

This degree program is available only for international students for whom English is a second language. Most of the requirements are the same as above. The differences are as follows:

Core Curriculum

Replace the first two language courses (1004 and 1014) with:

- ENGL 2313, Reading Major American Writers
- POL 2053, Governing Ideas in America

General Curriculum (Blocks)

The two recommended Block I courses are:

- MUS 1043, Jazz: Mirror of American Society
- MUS 2083, Black American Musical Experience

The two recommended Block II courses are:

- SOC 1033, The Sociological Imagination: An Introduction to Sociology
- SOC 2133, Inequality in American Society

American Studies (27 hours - replaces Language Concentration)

Choose two of the following four courses:

- ENGL 2133, Images of the American West*
- ENGL 3313, 19th Century American Literature
- ENGL 3323, 20th Century American Literature
- ENGL 3333, Contemporary American Literature

Choose two of the following four courses:

- HIST 2133, Images of the American West*
- HIST 3553, Rise of Industrial America, 1865-1901
- HIST 3563, New Deal to New Frontier: Mid-20th Century America
- HIST 3573, Recent American History, 1960-Present

Choose two of the following three courses:

- POL 3033, American Politics and Film
- POL 3113, Comparative Foreign Policy
- POL 3213, American Political Parties and Ideologies

Choose three of the following five courses:

- COM 2013, Communications Systems
- COM 3103, Theories of Communication
- SOC 3023, Sociology of Work and Occupations
- SOC 3063, Sociology of Education
- SOC 4823, Globalization

*May be used as English or history elective, but not both.

International Business (IB)

3013 (3 hours)

Comparative Culture and International Business

Because a business firm's success depends on its ability to understand and adjust to economic, physical, and cultural environments, this course emphasizes interrelations, especially between economy and culture. Includes an overview of international business, components of the cultural environment, and managing in a multicultural environment. Prerequisite: Junior standing.

4013 (3 hours)

Topics in International Business

A critical study of selected topics in international business. Emphasis on contemporary economic and political relationships. Course may include foreign travel. May be repeated for credit if different topics are covered. Prerequisites: Junior standing and permission of the coordinator of international business programs.

4023 (3 hours)

Global Energy Decisions

Characterizes economics, politics and history of state energy policies, particularly as exemplified by state-run oil companies. Also covers competition between fuels (e.g. nuclear versus solar) and competition between energy producer countries (e.g. Russian natural gas versus U.S. coal in European electric power markets). Prerequisite: Senior standing. Same as EMGT 4023.

4503 (3 hours)

Internship in International Business

Combines work experience and academic experience in the area of International Business. Prerequisite: Approval of instructor prior to beginning the internship.

4973 (3 hours)

Seminar in International Business

Selected subjects in international business. May be repeated for credit if different topics are covered. Prerequisite: Permission of the instructor.

4991, 4992, 4993 (1-3 hours)

Independent Study

Business Minor Programs

Minor in Accounting

The accounting minor is an ideal complement to the other business administration majors. Other business fields depend heavily on collecting, maintaining, analyzing, and reporting business information. The minor consists of 18 semester hours as follows.

Accounting Requirements:

- ACCT 2113, Concepts in Accounting Information I
- ACCT 2123, Concepts in Accounting Information II
- ACCT 3113, Intermediate Financial Accounting I

Electives (9 hours - select three of the following):

- ACCT 3123, Intermediate Financial Accounting II
- ACCT 3133, Cost Accounting
- ACCT 4143, Accounting Information Systems
- ACCT 4153, Analysis of Financial Statements
- ACCT 4223, Internal Reporting Issues
- ACCT 4233, Topics in Federal Income Taxation
- ACCT 4243, Auditing Assurance for Accounting Systems

Prerequisites are required for many of the courses in the accounting minor.

Minor in Business Administration

The business administration minor is available to non-business undergraduates. The minor consists of 25 semester hours as follows.

Business Requirements (16 hours):

- ACCT 2113, Concepts in Accounting Information I
- ACCT 2123, Concepts in Accounting Information II
- BL 2013, Legal Environment of Business
- MIS 1001, Introduction to Spreadsheets
- QM 2013, Statistics I
- QM 2023, Statistics II

Business Core (select three of the following):

- FIN 3003, Business Finance
- MGT 3003, Principles of Management
- MIS 2003, Introduction to Management Information Systems
- MKTG 3003, Principles of Marketing
- QM 3023, Operations Management

Prerequisites are required for many of the courses in the business administration minor.

Minor in Energy

The energy minor is a unique, niche minor, incorporating a minimum of 21 hours of energy-focused coursework from all three of the University's undergraduate colleges. Business students will develop a firm foundation and understanding of the energy industry, thus enhancing their career possibilities, especially in the energy industry. All freshman and sophomore business core classes are prerequisites for the business classes in this minor. Some of the science and engineering courses also have prerequisites. Students will need to work with undergraduate business advisors and the director of the Energy Management Center for advice about sequences and prerequisites.

Required Courses (15 hours):

- PE 3553, Practice of Petroleum Engineering
- EMGT 2013, Practical Issues in Energy Management
- EMGT/IB 4023, Global Energy Decisions
- BL/EMGT 3013, Oil, Gas and Environmental Law
- ACCT 4163, Financial Reporting in the Energy Industry

Electives (6 hours – select two of the following):

- BL 3023, Commercial Transactions
- BL 4013, Real Property
- BUS 4973, Seminar: Oil in Economic and Foreign Policy History
- EMGT 4013, Fundamentals in Energy Commodity Trading
- EMGT 4983, Energy Related Internship
- PE 3003, Petroleum Economics and Property Evaluation
- POL 4083, The Politics of Natural Resource Wealth

Recommended Block III Courses (10 hours):

- GEOL 1014, Physical Geology
- CHEM 2023, Chemical Concepts of Energy Technology
- GEOL 3153, Sedimentary Rocks and Processes

Prerequisites are required for many of the courses in the energy minor.

Minor in Finance

The finance minor is a natural complement to business administration majors since a major component of virtually every business decision for both profit and not-for-profit firms is the financial implication of the decision. The finance minor is restricted to business majors; 12 hour requirement.

Finance Requirements (6 hours):

FIN 3023, Financial Institutions and Markets I

FIN 3083, Investment Analysis and Portfolio Management I

Electives (6 hours - select two of the following):

FIN 4003, Working Capital Management

FIN 4013, Planning and Control of Capital Expenditures

FIN 4033, Risk Management

FIN 4043, Financial Institutions and Markets II

FIN 4063, International Business Finance

FIN 4083, Investment Analysis and Portfolio Management II

FIN 4113, Student Investment Fund I

Prerequisites are required for many of the courses in the finance minor.

Minor in Healthcare Informatics

The healthcare informatics minor meets the growing demand for trained individuals who understand healthcare, information systems, and technology (according to the U.S. Department of Labor). The minor combines health sciences with information systems, including management information systems, information technology, and computer science.

Required Courses (12 hours):

MIS 2013, Business Programming Concepts I*

MIS 3043, Telecommunications*

MIS 3053, Database Design and Applications*

MIS 4243, Concepts in Healthcare Informatics

*Information technology and computer science majors may use approved, equivalent CS courses as substitutes for the indicated MIS courses.

Elective Courses (6 hours). Select two of the following:

AHS 4113, Health Management Techniques

NSG 4133, International Nursing and Technology

NSG 4203, Nursing and Computers

CS/BIOL 4643, Bioinformatics

CS 4653, Medical Informatics

Prerequisites are required for many of the courses in the healthcare informatics minor.

Minor in International Business

The international business minor is designed for business majors by combining a competency in a modern foreign language, international business courses, and selected electives addressing economics, international relations, and cultural awareness and understanding. Students are encouraged to participate in study abroad programs and have priority for TU-approved international business internships hosted by companies abroad. The minor requires a maximum of 21 semester hours, which includes intermediate language proficiency.

Language Requirements: University coursework through the second year in a modern foreign language or demonstrated proficiency equivalent to two years of university coursework. Students who enroll in a language course above 1004 and complete the course with a grade of C or higher will receive delayed proficiency credit for the previous course as well. Some limits apply.

International Business Requirements (9 hours):

IB 3013, Comparative Culture and International Business

Two of the following:

ECON 3083, International Economics

FIN 4063, International Business Finance

MKTG 4093, International Marketing

IB 4013, Topics in International Business

Other Requirements (6 hours):

Select two courses from those approved for the Certificate in International Studies offered by the Henry Kendall College of Arts and Sciences and listed beginning on page 267 of this *Bulletin*. One may be replaced with a 3XX3 level course in Chinese, French, German, Spanish, or Russian.

Prerequisites are required for many of the courses in the international business minor.

Minor in Management Information Systems

The management information systems minor is designed for students who want to develop their information technology skills beyond the level required by their major field of study.

MIS Requirements (15 hours):

MIS 2013, Business Programming Concepts I

MIS 3023, Business Programming Concepts II

MIS 3043, Telecommunications

MIS 3053, Database Design and Applications

MIS 4053, Systems Analysis and Design

Prerequisites are required for many of the courses in the management information systems minor.

Minor in Marketing

The marketing minor may be pursued by any student who wishes to develop their expertise in marketing beyond that which is required for their major field of study.

Marketing Requirements (15 hours):

- MKTG 3003, Principles of Marketing
- MKTG 3013, Consumer Behavior
- MKTG 3073, Marketing Research
- Six hours of marketing electives

Prerequisites are required for many of the courses in the marketing minor.

Business Certificate Programs

Certificate in Accounting

Director

Karen Cravens, Chapman Professor of Accounting

The Certificate in Accounting program prepares individuals for entry-level accounting positions and professional certification examinations such as the Certified Management Accountant and Certified Internal Auditor examinations, and enhances accounting knowledge necessary for advancement in existing positions.

Those admitted to this program must either hold a bachelor's degree or have sufficient coursework for junior standing at The University of Tulsa. Certification requires that students complete 24 credit hours in accounting with a minimum grade point average of 2.0.

Candidates for the CPA examination in Oklahoma must have at least 150 semester hours of college credit, of which 76 semester hours must be upper-division courses and 30 semester hours must be accounting courses above the principles or introductory level, including one course in auditing. Similar 150-hour requirements apply to candidates taking the CPA examination in other states and jurisdictions, yet candidates must verify that they meet specific requirements for the state in which they choose to take the exam.

Required Core:

- ACCT 2113, Concepts in Accounting Information I
- ACCT 2123, Concepts in Accounting Information II
- ACCT 3113, Intermediate Financial Accounting I
- ACCT 3123, Intermediate Financial Accounting II
- ACCT 3133, Cost Accounting
- ACCT 4143, Accounting Information Systems

Electives (select two of the following):

- ACCT 4223, Internal Reporting Issues
- ACCT 4233, Topics in Federal Income Taxation
- ACCT 4243, Auditing Assurance for Accounting Systems

Prerequisites are required for many of the courses required for the Certificate in Accounting.

Certificate in Applied Innovation

Director

Charles Wood, Associate Professor of Marketing

The Certificate in Applied Innovation program brings basic business concepts, qualitative research tools, and entrepreneurship knowledge and experience to students of any major to help them be more successful in their careers. Students in this program will work in interdisciplinary teams to discover vital connections across knowledge bases and implement ideas of their own creation through service learning opportunities.

Required Courses (12 hours):

MKTG 2013, Innovation and Qualitative Methods

MGT 2043, The Entrepreneurship Experience

MGT 3513, Student Practicum

One 3000-level or 4000-level course chosen in consultation with the student's advising office and the certificate director (e.g., MGT 4193, Social Entrepreneurship; ME 4863, Special Topics in Design; ART 3443, Digital Painting with Photoshop)

Prerequisites are required for many of the courses required for the Certificate in Applied Innovation.

Certificate in Finance

Director

Richard Burgess, Professor of Finance and H. Michael and Laurie Krimbill Faculty Fellow

The Certificate in Finance program prepares individuals for entry-level positions in the finance industry or enhances the finance skills necessary for advancement in existing positions. Areas of study include corporate finance, investments and portfolio management, financial institutions, international finance, and risk management.

Those admitted to this program must either hold a bachelor's degree or have sufficient coursework for junior standing at The University of Tulsa. Certification requires that students complete 15 hours of accredited coursework in finance with a minimum grade point average of 2.0 in all coursework as well as in courses used to fulfill certification requirements.

Following are the course requirements and options.

Required Core:

FIN 3023, Financial Institutions and Markets I

FIN 3083, Investment Analysis and Portfolio Management I

Electives (select three of the following):

FIN 4003, Working Capital Management

FIN 4013, Planning and Control of Capital Expenditures

FIN 4033, Risk Management

FIN 4063, International Business Finance

FIN 4083, Investment Analysis and Portfolio Management II

FIN 4113, Student Investment Fund I

FIN 4973, Seminar in Finance

Prerequisites are required for many of the courses required for the Certificate in Finance.

Certificate in Management Information Systems

Director

Karen Cravens, Chapman Professor of Accounting

The Certificate in Management Information Systems program is designed for two groups of individuals. The program prepares those without a college degree for entry-level positions in data processing and management information systems (i.e., positions that do not require an undergraduate degree in MIS), and helps individuals with degrees in areas other than MIS who want to enhance their information systems skills.

Those admitted to this program must either hold a bachelor's degree or have sufficient coursework for junior standing at The University of Tulsa. Students must fulfill the prerequisites and complete the 18 hours with a minimum grade point average of 2.0.

MIS Core Requirements (18 hours):

- MIS 2013, Business Programming Concepts I
- MIS 2003, Introduction to Management Information Systems
- MIS 3023, Business Programming Concepts II
- MIS 3043, Telecommunications
- MIS 3053, Database Design and Applications
- MIS 4053, Systems Analysis and Design

Electives (recommended):

- CS 1043, Introduction to Programming and Problem-solving
- MIS 4093, Systems Development Project
- MIS 4973, Seminar in Management Information Systems

Prerequisites are required for many of the courses required for the Certificate in Management Information Systems.

Certificate in Not-for-Profit Administration

Director

Ralph W. Jackson, Associate Professor of Marketing

While not-for-profit organizations have some similarities to commercial organizations, there are challenges unique to the not-for-profit world. Not only are the human resource management issues different in the not-for-profit world, but marketing, financial management, and legal issues facing managers in that world differ from those that they would face in the commercial world. The purpose of the Certificate in Not-for-Profit Administration program is to prepare students with not-for-profit organizations either as an employee or in some management capacity as a volunteer.

Required Courses for Certificate in Not-for-Profit Administration Program for Non-Business Majors (16 hours):

- ACCT 2113, Concepts in Accounting Information I
- BL 3043, The Law and Not-for-profit Organizations
- MIS 1001, Introduction to Spreadsheets
- MKTG 3063, Fundamentals of Not-for-Profit Marketing*
- MGT 4193, Social Entrepreneurship
- MGT/MKTG 4213, Not-for-Profit Practicum

*This course is for non-business students. The equivalent course in marketing for business students is MKTG 3003.

Prerequisites are required for many of the courses required for the Certificate in Not-for-Profit Administration.

Required Courses for Certificate in Not-for-Profit Administration Program for Business Majors (15 hours):

- The business core courses, including MKTG 3003, in place of MKTG 3063
- BL 3043, The Law and Not-for-profit Organizations
- MGT 4193, Social Entrepreneurship
- MGT/MKTG 4213, Not-for-Profit Practicum

Elective Courses (Choose two of the following):

- AM 1012, Introduction to Arts Organizations
- COM 3633, Writing for Public Relations
- FLM 2043, American Culture on Film
- FLM 2273, Film History
- PSY 3063, Developmental Psychology
- PSY 3033, Abnormal Psychology
- SOC 2123, Crime, Justice, and Social Order
- THEA 2213, A Cultural History of Theatre
- THEA 2323, Survey of Dramatic Literature

Prerequisites are required for many of the courses required for the Certificate in Not-for-Profit Administration.

Certificate in Sport Administration

Director

Adrien Bouchet, Warren Clinic Assistant Professor of Sport Administration

Prepares individuals for entry-level positions in the sport industry or enhances sport administration knowledge necessary for advancement in existing positions. Areas of study include sport finance, sport marketing, sponsorship, broadcasting rights, and international sports. Completion of the Certificate in Sport Administration requires that students complete 15 hours of approved coursework in sport administration and electives with a minimum grade of C in courses fulfilling certificate requirements.

Following are the course requirements and options:

Required Courses (9 hours)

ATRG 2043, Principles and Practice of Sport Administration

ATRG 3153, Revenue Generation for Sport Organizations

ATRG 4133, International Sport Business

Elective Courses. Choose two of the following:

ATRG 2103, Women and Sports

ATRG 4813, Internship in Sport Administration

BL 3043, The Law and Not-for-profit Organizations

MKTG 3063, Fundamentals of Not-for-profit Marketing

MGT 3003, Principles of Management

An overall GPA of 2.5 is required to participate in the internship.

Prerequisites are required for many of the courses required for the Certificate in Sport Administration.

Undergraduate Healthcare Programs

Bachelor of Science in Athletic Training

Director

Robin Ploeger

Professor

John Caruso

Clinical Professors

Greg Gardner

Robin Ploeger

Associate Professors

Jan Drummond

Eric Wickel

Assistant Professor

Adrien Bouchet

Clinical Assistant Professors

Samantha Summers

Ron Walker

Jason West

Preceptors

Ben Anderson

Scott Brooks

Meredith Hart

Mallory Kelsay

Chris Nerio

Dave Polanski

The athletic training program is an undergraduate program accredited by the Commission on Accreditation of Athletic Training Education (CAATE). It is designed to provide structured didactic and clinical experiences to prepare students for a career in athletic training. Students are encouraged to become members of the National Athletic Trainers' Association.

Outcomes for the athletic training program are:

- Demonstrate proficiency in the domains of athletic training as established by the National Athletic Trainers' Association, and
- Demonstrate the ability to utilize evidence based practice research to analyze a given situation and provide the appropriate response in clinical practice.

Students desiring to enter this program must complete the athletic training application process, which includes submitting an application and letters of recommendation. After submission of the application materials and admission to the University, the prospective student will receive information about the health and safety requirements of the program, which must be completed as outlined below. During the fall semester, the prospective athletic training student will complete prerequisite courses, acquire a minimum of 80 hours of observation experience in scheduled rotations, and sit for an interview with the athletic training faculty and staff. Formal acceptance into the athletic training program may be granted upon successful completion of prerequisite coursework, observation hours, the interview, and other university and CAATE standards. Due to the program's clinical requirement, only a limited number of students are accepted each year.

Upon acceptance to the program, the student will progress through the sequence of didactic, practicum, and clinical experience courses. Athletic training students who earn less than a B in any athletic training didactic or practicum course or less than a C in any foundation or clinical experience course must repeat that course. Athletic training students must maintain an overall grade point average of at least 2.8 on the 4.0 scale. Any student who falls below this standard or is not making progress in the athletic training courses will be placed on probation for the following semester. The student will be notified of their probation status in a letter from the program director. The letter will also explain the progress that must be made during the subsequent semester in order to be removed from probation. The student will be dismissed from the program if adequate progress is not made. Petition for readmission must be made to the program director. The Athletic Training Council will make readmission decisions following a formal petition by the student.

As a part of each practicum course, the student will become proficient in the required psychomotor skills. A significant amount of time will be required for the clinical rotations that are part of each clinical experience class; students will be directly supervised by Board of Certification, Inc., certified and Oklahoma licensed athletic trainers. During the clinical experience rotations, students will complete clinical proficiencies, learning-over-time evaluations, and other assignments that assess learning.

All students in the athletic training program must adhere to the following health and safety requirements:

Criminal Background Check: Students are required to submit to a criminal background check upon formal admission to the program as required by the contract with off-campus clinical agencies. This will allow proper placement of students for off-campus rotations.

Liability Insurance: Liability insurance is required for all students who have been formally accepted into the athletic training program. Insurance fees are listed under Health sciences program fees on page 33 of this *Bulletin* and are automatically billed to the student's account through the Bursar's Office.

Health Requirements: Prior to beginning observation experiences and yearly thereafter, students must complete online training in blood-borne pathogens, HIPAA, the Right to Know (OSHA communication standard), and TB prevention. During the prospective semester, students are required to present proof of the following immunizations and screenings to the School of Nursing: TB test (using CDC guidelines for two step method or chest X-ray), measles, mumps, rubella (MMR), diphtheria, tetanus, pertussis (T'daP), hepatitis B, varicella and flu. These may be done at the Alexander Health Center on campus for a fee or at a private physician's office. Students who do not desire the required rubella or hepatitis B immunization must sign a waiver.

Transportation and Uniforms: Students are responsible for providing their own transportation to off-campus clinical sites and are required to buy their own uniforms in accordance with the program dress code. Some uniforms may be provided by the Department of Athletics. See the *Athletic Training Student Handbook* for dress code.

Cardiopulmonary Resuscitation (CPR): Students must provide documentation of American Heart Association Basic Life Support for Healthcare Providers certification after completing ATRG 2553 and must maintain continuous certification throughout the remainder of the program.

Physical Exam: Students must submit documentation of a recent physical examination by a physician of the student's choice. This must be completed prior to

beginning observation experiences during the prospective semester.

Written Technical Standards: The written technical standards verify that the student is capable of meeting minimum standards relating to physical, mental, and emotional health with or without accommodations. A physician of the student's choice must sign this form. This form must be completed prior to beginning observation experiences during the prospective semester.

Apprentice Licensure Status: Students are required to obtain apprentice athletic trainer status through the Oklahoma Board of Medical Licensure and Supervision upon formal admission to the program.

Completion of the degree requirements in the athletic training program at The University of Tulsa entitles the recipient to apply to sit for the national athletic training certification examination through the Board of Certification, Inc. (BOC). Although the degree recipient is qualified to sit for the examination, permission to sit for the exam is controlled by BOC and the decision is completely within the agency's jurisdiction.

Bachelor of Science in Athletic Training (B.S.A.T.)

The Bachelor of Science in Athletic Training (B.S.A.T.) degree requires successful completion of 126 hours of coursework as detailed below:

I. Tulsa Curriculum	
Every undergraduate must fulfill the requirements of the Tulsa curriculum, which has two parts: the core curriculum and the general curriculum.	
A. Core	14
ATRG 1001, Athletic Training Orientation	
ENGL 1033, Exposition and Argumentation*	
ENGL 3003, Writing for the Professions	
MATH 1093, Mathematics with Applications	
QM 2013, Statistics I; STAT 2013, Introduction to Statistics; <i>or</i> SOC 2023, Statistics for the Social Sciences**	
MIS 1001, Introduction to Spreadsheets	
B. General Curriculum (Blocks).....	26
Block I Electives (6 hours)	
Block II Electives (9 hours)	
BUS 1013, Business and Society (Block II)	
BIOL 2153, 2151 Human Anatomy and Lab (Block III)**	
BIOL 2173, 2171, Human Physiology and Lab (Block III)**	
II. Major Foundation and Clinical Experience Courses	20
(Must be completed with a grade of C or higher.)	
ATRG 2802, Clinical Experience I	
ATRG 2813, Clinical Experience II	
ATRG 3803, Clinical Experience III	
ATRG 3813, Clinical Experience IV	
ATRG 4803, Clinical Experience V	
AHS 4043, Introduction to Applied Health Care Research	
PSY 2253, Foundations of Psychology	
III. Major Required Courses	59
(Must be completed with a grade of B or higher.)	
ATRG 1172, Prevention and Treatment Practicum	
ATRG 2021, Human Anatomy and Kinesiology Lab	
ATRG 2023, Human Anatomy and Kinesiology	
ATRG 2452, Drug Education/Pharmacology	
ATRG 2553, Emergency Procedures in Athletic Training	
ATRG 2563, Sports Nutrition	
ATRG 2601, Therapeutic Modalities Practicum	
ATRG 2603, Strategies for Healthy Living	
ATRG 2653, Prevention and Treatment of Athletic Injuries	
ATRG 2663, Therapeutic Modalities	
ATRG 3022, Professional Responsibilities in Athletic Training	
ATRG 3023, Exercise Physiology	
ATRG 3121, Exercise Physiology Lab	
ATRG 3401, Therapeutic Rehabilitation Practicum	

- ATRG 3601, Orthopedic Assessment: Lower Extremity Practicum
- ATRG 3642, Orthopedic Assessment: Lower Extremity
- ATRG 3652, Orthopedic Assessment: Upper Extremity
- ATRG 3653, Therapeutic Rehabilitation
- ATRG 3701, Orthopedic Assessment: Upper Extremity Practicum
- ATRG 3713, Developing Strength and Conditioning Programs
- ATRG 4501, Organization/Administration Practicum
- ATRG 4663, Athletic Training Organization/Administration
- ATRG 4713, Biomechanics
- ATRG 4723, Illness and Disease in the Physically Active
- ATRG 4903, Applications in Athletic Training I
- ATRG 4913, Applications in Athletic Training II

IV. Free Electives	7
Any non-required undergraduate course the institution offers.	
Total	126

*Some students will be required to enroll in ENGL 1004 prior to ENGL 1033.

**The required statistics course, BIOL 2153, BIOL 2151, BIOL 2173, and BIOL 2171 are also major foundation courses and must be completed with a grade of C or higher.

Prerequisites for physical therapy, medical, or other professional schools may be completed within this program, although courses may vary according to institutional requirements.

Athletic Training (ATRG)

1001 (1 hour)

Athletic Training Orientation

Introduction to college life and overview of academic and professional expectations for athletic training and exercise and sports science students.

1021 (1 hour)

Self Defense

Being able to defend oneself is a life skill that requires both physical and mental preparation. Introduction to the martial arts including history and techniques related to Tae Kwon Do, Hap Ki Do, and breathing. Includes lectures and physical skill acquisition and practice.

1013 (3 hours)

Concepts and Issues in Sport Sciences

Explores the field of exercise and sports science, covering sub-disciplines and career paths within each area. Emphasizes governing agencies, certifying bodies, and licensing processes of each clinical practice area including the American College of Sports

Medicine, National Strength and Conditioning Association, American Physical Therapy Association, etc.

1172 (2 hours)

Prevention and Treatment Practicum

Focuses on taping, padding, and other techniques to prevent athletic injuries, as well as basic injury management techniques including wound care, crutch fitting, and wrapping. Required for prospective athletic training students. Corequisite: ATRG 2653.

1991 (1 hour)

Personal Well-being

Examines history, techniques, and movements associated with focused wellness. Introduces the skills and methods of total health and wellness, emphasizing mental and physical discipline.

2021 (1 hour)

Human Anatomy and Kinesiology Lab

Practical application of the material presented in Human Anatomy and Kinesiology. Students

will participate in hands-on activities, such as free weights, machine weights, and cardiovascular machines, which will allow them to learn how specific muscles and/or muscle groups are targeted in an athletic performance environment. Corequisite: ATRG 2023.

2022 (2 hours)

Pedagogy of Sport Skills

Emphasis on the theory of and participation in non-traditional and traditional sports and activities. Includes analysis of skills, discussion on developmental appropriateness, terms, cues, basic rules, equipment setup, and teaching strategies. Prerequisite: Sophomore standing.

2023 (3 hours)

Human Anatomy and Kinesiology

Anatomical study of structure and function of the human body specifically related to sport and physical performance. Emphasis on the mechanics of movement. Prerequisites: BIOL 2153, 2151, 2173, and 2171. Corequisite: ATRG 2021.

2032 (2 hours)

Pedagogy of Outdoor and Lifetime Activities/Sports

Concepts, terms, safety issues, teaching strategies, sports skills, and developmental appropriateness related to a variety of outdoor activities and sports. Learning how to guide and process students through initiative problems, adventure games, and trust activities. Prerequisite: Sophomore standing.

2043 (3 hours)

Principles and Practice of Sport Administration

Focuses on the broad-based subjects that encompass sport administration. Topics include sport marketing, finance, law, and management. Special attention will be paid to youth, high school, college, professional, and international sport.

2103 (3 hours)

Women and Sports

A chronological perspective on the contributions, challenges, and changes in sports for women. The history and development of women's sports and the role of governing bodies and sanctioning organizations are examined. The impact of

sports on the role of women in American society and the Olympic influence are discussed. Same as WS 2103.

2451 (1 hour)

Practicum

Early laboratory and clinical experiences in Physical Education. The initial pre-professional clinical experience for schools, kindergarten through grade twelve, with primary duties including observation and assisting instructors with general instruction and class management in physical education.

2452 (2 hours)

Drug Education/Pharmacology

Emphasis on legal and illegal drug use in the world today. Topics include indications, contraindications, and effects of commonly used non-prescription and prescription medicines; the use of ergogenic aids and illegal substances in athletics; and neurophysiology and pharmacology as related to the effects of drugs on the body.

2552 (2 hours)

CPR for the Professional Rescuer

Acquaints students with accident, injury, and illness situations, techniques for immediate first aid, and legal parameters involved when administering emergency care.

2553 (3 hours)

Emergency Procedures in Athletic Training

Emergency cardiac care skills as well as airway management, oxygen administration, spine stabilization, emergency transportation, external hemorrhage management, and recognition and treatment of emergency situations including heat illness, asthma, diabetes, shock, and allergies.

2563 (3 hours)

Sports Nutrition

Emphasis on basic nutrition, fundamentals of digestion, absorption and metabolism, nutrients and their roles, and specific sports/nutrition-related subjects.

2601 (1 hour)

Therapeutic Modalities Practicum

Techniques and clinical skills relating to the treatment of injuries using therapeutic modalities. Corequisites: ATRG 2802 and 2663.

2603 (3 hours)**Strategies for Healthy Living**

Consists of theory and practicum. The theory component presents an overview of current strategies and practices for healthy living, including health maintenance and disease prevention.

2653 (3 hours)**Prevention and Treatment of Athletic Injuries**

Emphasis on study of etiology and mechanism of injury, pathology, and recognition of clinical signs and symptoms of athletic injury. Provides knowledge required for proper recognition, management, and prevention of athletic injuries.

2663 (3 hours)**Therapeutic Modalities**

Theoretical background for clinical application of therapeutic modalities. Principles of electrophysics and biophysics, specific physiological effects and therapeutic indications and contraindications associated with use of electrotherapeutic modalities, hydrotherapeutic modalities, cryotherapy, paraffin, ultrasound, intermittent compression unit, massage, and other contemporary modalities. Prerequisite: ATRG 2653. Corequisites for athletic training majors only: ATRG 2601 and 2802.

2802 (2 hours)**Clinical Experience I**

The clinical experience will occur under the supervision of a preceptor and will provide students the opportunity to develop skills and integrate knowledge related to taping, padding/bracing, use of therapeutic modalities, first aid/wound care, OSHA regulations, and taking vital signs. Corequisites: ATRG 2601 and 2663.

2813 (3 hours)**Clinical Experience II**

The clinical experience will occur under the supervision of a preceptor and will provide students the opportunity to develop skills and integrate knowledge relating to the use of protective equipment and therapeutic modalities, and management of emergency situations, acute injuries and heat-related illnesses. Prerequisite: ATRG 2553. Corequisites: ATRG 3601 and 3642.

3022 (2 hours)**Professional Responsibilities in Athletic Training**

Emphasis on developing professional behaviors including documentation and communication skills, and utilizing research and evidence-based practice in clinical decision making. Students will also understand various diagnostic testing methods, medical records systems, and types of insurance.

3023 (3 hours)**Exercise Physiology**

Physiological responses and adaptations to physical activity. Extensive practical applications to evaluating cardiovascular fitness and information on training for improvement in fitness, health, and performance. Prerequisites: ATRG 2021 and 2023. Corequisite: ATRG 3121.

3032 (2 hours)**Instructional Methods in Health**

Current health concepts and developments, with emphasis on the role and methodologies for health instruction in various settings.

3121 (1 hour)**Exercise Physiology Lab**

Lab-based instruction that entails the measurement and calculation of health and human performance-related variables. Labs run concurrent to lectures in ATRG 3023. Prerequisites: ATRG 2021 and 2023. Corequisite: ATRG 3023.

3153 (3 hours)**Revenue Generation for Sport Organizations**

Focuses on the strategic role that finance, sales, and marketing have in generating revenue in sports business. Topics discussed will include the role taxes play in arena and stadium development; television revenue for leagues and teams; sponsorships; ticket sales; merchandising and licensing; and food, concessions, and parking. Prerequisite: ATRG 2043.

3401 (1 hour)**Therapeutic Rehabilitation Practicum**

Focuses on techniques and clinical skills relating to the rehabilitation of injuries, including isokinetic equipment, manual therapy, and muscle re-education. Corequisites: ATRG 3653 and 3813.

3403 (3 hours)**Physical Activities for Elementary Populations**

Methods and practical experience to enhance effectiveness in teaching physical education to young people in kindergarten through fifth grade. Public school laboratory experiences are required. Prerequisites: ATRG 2022 or 2032; Junior standing and permission of instructor.

3513 (3 hours)**Clinical Methodology**

Introduction to the basic skills used during fitness evaluations. A variety of assessment skills are covered and students are exposed to equipment commonly used in assessment. Prerequisites: ATRG 3023 and 3121.

3601 (1 hour)**Orthopedic Assessment: Lower Extremity Practicum**

Focuses on techniques used to evaluate orthopedic injuries to the lower extremity and thorax. Emphasis on skills in orthopedic assessment, goniometry, manual muscle testing techniques, special tests, and postural evaluations. Corequisites for athletic training majors only: ATRG 2813 and 3642.

3642 (2 hours)**Orthopedic Assessment: Lower Extremity**

Common types of orthopedic injuries to the lower extremity and thorax are discussed. Injuries are discussed in terms of prevention, etiology and mechanism of injury, pathology, recognition and evaluation techniques, and protocols. Prerequisites: ATRG 2021, 2023, and 2653. Corequisites for athletic training majors only: ATRG 2813 and 3601.

3652 (2 hours)**Orthopedic Assessment: Upper Extremity**

Common types of orthopedic injuries to the upper extremity, head, and spine are discussed in relation to prevention, etiology and mechanism of injury, pathology, recognition and evaluation techniques, and protocols. Prerequisites: ATRG 2021, 2023, 2653, and 3642. Corequisites for athletic training majors only: ATRG 3701 and 3803.

3653 (3 hours)**Therapeutic Rehabilitation**

Essentials of rehabilitation programs, physical examinations, principles of therapeutic exercise, muscle re-education, techniques of

rehabilitation, and special therapeutic techniques. Prerequisites: ATRG 2653 and 3642. Corequisites for Athletic Training majors only: ATRG 3401 and 3813.

3701 (1 hour)**Orthopedic Assessment: Upper Extremity Practicum**

Focuses on techniques used to evaluate orthopedic and sports injuries to the upper extremity, head, and spine. Emphasis on skills in orthopedic assessment, goniometry, manual muscle testing techniques, special tests, and postural evaluations. Corequisites for athletic training majors only: ATRG 3652 and 3803.

3713 (3 hours)**Development of Strength and Conditioning Programs**

Provides skills and knowledge necessary in developing and implementing strength and conditioning programs for both competitive and non-competitive populations. Emphasis on teaching and supervising safe resistance training techniques. Prerequisites: ATRG 2021, 2023, 3023, and 3121; or permission of instructor.

3803 (3 hours)**Clinical Experience III**

The clinical experience will occur under the supervision of a preceptor and will provide students the opportunity to develop skills and integrate knowledge relating to evaluation of lower extremity injuries and management of injuries. Students will continue to develop previously demonstrated professional practices. Corequisites: ATRG 3652 and 3701.

3813 (3 hours)**Clinical Experience IV**

The clinical experience will occur under the supervision of a preceptor and will provide students the opportunity to develop skills and integrate knowledge relating to evaluation of upper extremity injuries, exercise, and nutrition. Students will continue to develop previously demonstrated professional practices. Corequisites: ATRG 3401 and 3653.

3991, 3992, 3993 (1-3 hours)**Independent Study**

4053 (3 hours)**Legal Aspects in Athletic Training**

Analysis of the legal system and major problems/issues in sports medicine. Includes analysis of fundamental and current issues.

4113 (3 hours)**Motor Control and Development**

Motor control theories for manipulative and ambulatory skills as related specifically to developmental stages of learners. Skill acquisition as influenced by physical, emotional, and mental impairment will be addressed. Current theories as related to practice structure will also be presented. Prerequisites: ATRG 3023 and 3121.

4122 (2 hours)**Educating Special Needs Children in the Physical Realm**

Designed to provide students with information regarding characteristics of various handicapping conditions, history, federal mandates, assessment, placement, and intervention strategies that adapt physical education programs to meet the needs of atypical students. Prerequisites: ATRG 2022, 2032, and 3403.

4123 (3 hours)**Program Design**

Introduction to program planning and implementation in school and non-school instructional settings. Emphasis is on curriculum development from needs assessment to evaluation. Prerequisites: ATRG 2022, 2032, and 3403; admission to Teacher Education.

4133 (3 hours)**International Sport Business**

Focuses on the role that globalization plays in the world of sport. Special attention will be paid to the global sport business as it relates to the commercial management of sport and sport organizations. Prerequisite: ATRG 3153.

4201 (1 hour)**Methods in Teaching Lab**

Designed to be a supervised pre-teacher candidacy field experience for the practical application of various aspects of teaching methods. Corequisite: ATRG 4203.

4203 (3 hours)**Methods in Teaching**

Focus is on planning and implementation of effective instructional strategies in secondary schools. Prerequisites: ATRG 2022, 2032, and 3403; admission to Teacher Education. Corequisite: ATRG 4201.

4413 (3 hours)**Internship**

Off-campus rotation designed to allow the student to practice using existing clinical skills under the direct supervision of a clinical supervisor, as well as acquire new clinical skills specific to that clinical setting. Prerequisites: 2.50 GPA; ATRG 3513 or 2663.

4423 (3 hours)**Internship**

Off-campus rotation designed to allow the student to practice using existing clinical skills under the direct supervision of a clinical supervisor, as well as acquire new clinical skills specific to that clinical setting. Prerequisites: 2.50 GPA; ATRG 3513 or 2663.

4501 (1 hour)**Organization/Administration Practicum**

Practical application of administrative concepts of athletic training. Hands-on experience is gained as the student completes required assignments, projects, and case studies. Corequisites: ATRG 4663 and 4803.

4663 (3 hours)**Athletic Training****Organization/Administration**

Administrative components of athletic training. Basic concepts of legal liability, financial management, day-to-day scheduling and supervision, maintenance, and general administration. Corequisites: ATRG 4501 and 4803.

4713 (3 hours)**Biomechanics**

Introduction to the biomechanics of human movement, including terminology and mechanical concepts. Emphasis on anatomical and mechanical considerations as applied to injured and non-injured athletes. Prerequisites: ATRG 3023 and 3121.

4723 (3 hours)**Illness and Disease in the Physically Active**

Focuses on common illnesses, diseases, and conditions that affect physical activity including causes, signs/symptoms, diagnosis, treatment, and activity modifications. Taught by physicians and includes lab experiences.

4803 (3 hours)**Clinical Experience V**

The clinical experience will occur under the supervision of a preceptor and will provide students the opportunity to develop skills and integrate knowledge relating to therapeutic rehabilitation, psychological strategies, developing fitness programs, general medical conditions, and pharmaceuticals. Students will continue to develop previously demonstrated professional practices. Corequisites: ATRG 4501 and 4663.

4813 (3 hours)**Internship in Sport Administration**

Focuses on helping the student identify and obtain the requisite skills needed for employment in the sport administration workplace. Prerequisite: 2.50 GPA; ATRG 4133.

4903 (3 hours)**Applications in Athletic Training I**

The first of a two-semester capstone course to prepare a student for the BOC Inc. examination and a career in athletic training, and to explore areas relating to professional development and responsibility. Students will continue to develop previously demonstrated professional practices and complete a clinical rotation under the supervision of a preceptor. Prerequisite: Senior standing in athletic training program.

4913 (3 hours)**Applications in Athletic Training II**

The second of a two-semester capstone course to prepare a student for the BOC Inc. examination and a career in athletic training, and to explore areas relating to professional development and responsibility. Students will continue to develop previously demonstrated professional practices and complete a clinical rotation under the supervision of a preceptor. Prerequisite: Senior standing in athletic training program.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Healthcare Minor Program

Minor in Coaching

The coaching minor prepares students for coaching positions in a variety of athletic settings. Coaching should be combined with a major in a teaching field and appropriate education hours to meet the established guidelines of the School of Urban Education (see page 128) if the intent is to teach and coach in a public school. The coaching minor is offered to non-exercise and sports science/athletic training majors. It entails 18 hours and includes the following courses.

Requirements (12 hours):

- ATRG 2021, Human Anatomy and Kinesiology Lab
- ATRG 2022, Pedagogy of Sport Skills
- ATRG 2023, Human Anatomy and Kinesiology*
- ATRG 2603, Strategies for Healthy Living
- ATRG 2653, Prevention and Treatment of Athletic Injuries

Electives (select at least 6 hours from the following):

- ATRG 2452, Drug Education/Pharmacology
- ATRG 2563, Sports Nutrition
- ATRG 3023, Exercise Physiology
- ATRG 3032, Instructional Methods in Health
- ATRG 3121, Exercise Physiology Lab
- ATRG 3403, Physical Activities for Elementary Populations
- ATRG 3713, Development of Strength and Conditioning Programs
- ATRG 4053, Legal Aspects in Athletic Training
- ATRG 4713, Biomechanics

*Students should take BIOL 2153 and 2173 as Block III courses.

Prerequisites are required for many of the courses in the coaching minor.

Bachelor of Science in Exercise and Sports Science

Director

Greg Gardner

Professor

John Caruso

Clinical Professors

Greg Gardner

Robin Ploeger

Associate Professors

Jan Drummond

Eric Wickel

Assistant Professor

Adrien Bouchet

Clinical Assistant Professors

Samantha Summers

Ron Walker

Jason West

Exercise and sports science practitioners provide health care, technique/skill instruction, and performance enhancement for the physically active population. Foundational knowledge for this practice is gained through study of how physical activity influences the human body. Clinical skill acquisition is also a very necessary component. Courses within this degree program address both areas.

Outcomes for the exercise and sports science program are:

- Demonstrate comprehension and functional knowledge of the sciences applied to human performance and exercise,
- Retrieve, manage, and critically analyze data relevant to the improvement of health and human performance, and
- Participate as professionally prepared and responsible members of their chosen profession and community.

Exercise and sports science graduates will be prepared to seek several entry-level certifications from agencies such as the American College of Sports Medicine and the National Strength and Conditioning Association. This degree also prepares students for graduate studies in any one of a number of sports medicine-related fields of study. Students pursuing entrance into professional allied health care programs must be advised that the specific school or program might dictate additional course requirements. These students are advised to obtain the most current admission requirements from that school and work with their advisor in assuring all requirements are met.

Students pursuing this degree must earn a grade of C or higher in all courses with the ATRG prefix, as well as BIOL 2153, 2151, 2173, and 2171. Internship experiences have prerequisite courses and enrollment requires the permission of the advisor. Any student who receives a failing grade in an internship course is subject to immediate dismissal from the program. Internships may not be taken simultaneously. Students pursuing teacher certification must meet the School of Urban Education criteria for admission into teacher education and student teaching described on page 128 of this *Bulletin*.

Students completing this degree should be advised that the following requirements must be met prior to observation or internship courses:

Criminal Background Check: Students are required to submit to a criminal background check prior to observation or internship courses as required by the contract with off-campus clinical agencies. This will allow proper placement of students for off-campus rotations.

Liability Insurance: Liability insurance is required for any student enrolled in Exercise and Sports Science internship courses. Insurance fees are listed under Health sciences program fees on page 33 of this *Bulletin* and are automatically billed to the student's account through the Bursar's Office.

Health Requirements: Prior to beginning observation and internship courses and yearly thereafter, students must complete online training in blood-borne pathogens, HIPAA, the Right to Know (OSHA communication standard), and TB prevention. Students are required to present proof of the following immunizations and screenings to the School of Nursing: TB test (using CDC guidelines for two step method or chest X-ray), measles, mumps, rubella (MMR), diphtheria, tetanus, pertussis (TdaP), hepatitis B, varicella and flu. These may be done at the Alexander Health Center on campus for a fee or at a private physician's office. Students who do not desire the required rubella or hepatitis B immunization must sign a waiver.

Transportation and Uniforms: Students are responsible for providing their own transportation to clinical areas and are required to buy their own uniforms, in accordance with the program dress code. See the *Exercise and Sports Science Clinical Handbook* for dress code.

Cardiopulmonary Resuscitation (CPR): Students must provide documentation of American Heart Association Basic Life Support for Healthcare Providers certification prior to observation or internship courses and must maintain continuous certification throughout the program.

Bachelor of Science in Exercise and Sports Science (B.S.E.S.S.)

The Bachelor of Science in Exercise and Sports Science (B.S.E.S.S.) degree requires successful completion of 124-125 hours of coursework as detailed below:

I. Tulsa Curriculum

Every undergraduate must fulfill the requirements of the Tulsa curriculum, which has two parts: the core curriculum and the general curriculum.

A. Core.....14

- ENGL 1033, Exposition and Argumentation*
- ENGL 3003, Writing for the Professions
- ATRG 1001, Athletic Training Orientation
- MATH 1093, Mathematics with Applications *or* MATH 1163, Pre-calculus**
- MIS 1001, Introduction to Spreadsheets *or* EDUC 3171, Educational Technology for Instruction#
- QM 2013, Statistics I

B. General..... 26

- Block I Electives (6 hours)
- Block II Electives (9 hours)†
- BUS 1013, Business and Society (Block II)
- BIOL 2153, 2151, Human Anatomy and Lab (Block III) ††
- BIOL 2173, 2171, Human Physiology and Lab (Block III) ††

II. Major Core (must be completed with a grade of C or higher) 26

- ATRG 1013, Concepts and Issues in Sport Sciences
- ATRG 2023, Human Anatomy and Kinesiology
- ATRG 2021, Human Anatomy and Kinesiology Lab
- ATRG 2563, Sports Nutrition
- ATRG 2603, Strategies for Healthy Living
- ATRG 2653, Prevention and Treatment of Athletic Injuries
- ATRG 3023, Exercise Physiology
- ATRG 3121, Exercise Physiology Lab
- ATRG 3713, Development of Strength and Conditioning Programs
- ATRG 4713, Biomechanics

III. Major Emphasis and Electives. 58-59

Total..... 124-125

*Some students will be required to enroll in ENGL 1004 prior to ENGL 1033.

**General and teacher certification exercise and sports science majors take MATH 1093, Mathematics with Applications. Pre-professional exercise and sports science majors take MATH 1163, Pre-calculus.

#Teacher certification exercise and sports science majors take EDUC 3171 to fulfill core curriculum requirements. General and pre-professional exercise and sports science majors take MIS 1001 fulfill core curriculum requirements.

†Recommended Block II elective for general and pre-professional exercise and sports science majors: AHS 2123, Folk Healing.

††BIOL 2153, 2151, 2173, and 2171 must be completed with a grade of C or higher.

General Emphasis

Students in the general emphasis must complete the exercise and sports science core and the general emphasis. Students are encouraged to complete courses that will prepare them for the specific area of clinical practice they plan to pursue upon graduation. Students may also complete selected business courses if they plan to enter a corporate/commercial fitness setting.

Courses with ATRG prefix must be completed with a grade of C or higher.

General Emphasis (59 Hours)

AHS 4043, Introduction to Applied Health Care Research

ATRG 2022, Pedagogy of Sport Skills *or* ATRG 2032, Pedagogy of Outdoor and Lifetime Activities/Sports

ATRG 2452, Drug Education/Pharmacology

ATRG 3032, Instructional Methods in Health

ATRG 3403, Physical Activities for Elementary Populations

ATRG 3513, Clinical Methodology

ATRG 4053, Legal Aspects in Athletic Training

ATRG 4113, Motor Control and Development

ATRG 4413, Internship[‡]

ATGR 4423, Internship[‡]

NSG 2103, Human Sexuality

NSG 4903, Understanding Electrocardiography

Sport Administration Courses or Electives (6 hours) ^{‡‡}

Electives (17 hours)

Writing Elective (3 hours)

^{*}Students must complete nine hours of internship/clinical coursework. This degree requirement is designed to allow the student to gain clinical experience in a specific, targeted setting. Students completing clinical courses must meet all standards and guidelines established by the School of Nursing for clinical students.

^{‡‡}Sport Administration courses or electives shall be selected from the required or elective courses for the Certificate in Sport Administration listed on page 328 of this *Bulletin*.

Teacher Certification Emphasis

Students interested in pursuing careers in the instruction of physical education in both school and non-school settings should select the teacher certification emphasis within the exercise and sports science degree program. Students in this emphasis must complete the exercise and sports science core, the teacher certification emphasis, and the teacher education core, which includes a second language proficiency requirement. To be eligible for a teaching license in Oklahoma, students must have completed all degree requirements, received a recommendation from The University of Tulsa, and passed the required units of the Oklahoma Teacher Certification Examinations.

Courses with ATRG prefix and EDUC 1101 and EDUC 2103 must be completed with a grade of C or higher.

Teacher Certification Emphasis and Teacher Education Core (58 hours)

ATRG 2022, Pedagogy of Sport Skills

ATRG 2032, Pedagogy of Outdoor and Lifetime Activities/Sports

ATRG 2451, Practicum

ATRG 3032, Instructional Methods in Health

ATRG 3403, Physical Activities for Elementary Populations

ATRG 4113, Motor Control and Development

ATRG 4122, Educating Special Needs Children in the Physical Realm

ATRG 4123, Program Design

ATRG 4201, Methods in Teaching Lab

ATRG 4203, Methods in Teaching EDUC 1101, Introduction to Education

EDUC 2103, Foundations of Education

EDUC 3713, Child and Adolescent Development and Learning

EDUC 3733, Measurement and Evaluation

EDUC 4013, Education of the Exceptional Child

EDUC 4616, Student Teaching in Elementary School

EDUC 4636, Student Teaching in Senior High School

EDUC 4971, Seminar in Student Teaching

Second Language Proficiency (6 hours required in the Teacher Education Program and described on page 131 of this *Bulletin*.)

Electives (4 hours)

Pre-professional Emphasis

Students interested in pursuing studies in medical school, physical therapy, occupational therapy, or other allied health care fields should elect the pre-professional degree emphasis within the exercise and sports science degree program in order to complete the prerequisite coursework for those advanced programs of study. Students must be advised that the prerequisite requirements for programs of advanced professional study in allied health care may differ from program to program. For this reason, students must remain cognizant of specific admission prerequisites for their program of choice. Students in this emphasis must complete the exercise and sports science core and the pre-professional emphasis.

Courses with ATRG prefix must be completed with a grade of C or higher.

Pre-professional Emphasis (59 hours)

AHS 4043, Introduction to Applied Health Care Research

ATRG 2452, Drug Education/Pharmacology

ATRG 3513, Clinical Methodology *or* ATRG 2663, Therapeutic Modalities

ATRG 4053, Legal Aspects in Athletic Training

ATRG 4113, Motor Control and Development *or* NSG 4903, Understanding
Electrocardiography

ATRG 4413, Internship†

ATRG 4423, Internship†

ATRG 4723, Illness and Disease in the Physically Active

BIOL 1603, 1611, Introduction to Organismal and Evolutionary Biology and Lab

BIOL 1703, 1711, Molecular and Cellular Biology and Lab

CHEM 1013, 1011, General Chemistry I and Lab

CHEM 1023, 1021, General Chemistry II and Lab

PHYS 1013, 1011, Introductory Physics I and Lab

PHYS 1023, 1021, Introductory Physics II and Lab

PSY 2253, Foundations of Psychology

PSY 3063, Developmental Psychology

Electives (6 hours)

†Students must complete nine hours of internship/clinical coursework. This degree requirement is designed to allow the student to gain clinical experience in a specific, targeted setting. Students completing clinical courses must meet all standards and guidelines established by the School of Nursing for clinical students.

Bachelor of Science in Nursing

Director

Helen Hansen

Associate Director

Deborah Greubel

Clinical Professor

Barbara Martin

Associate Professor

Lee Anne Nichols

Clinical Associate Professors

Deborah Greubel

Merry Kelly-Rehm

Rhonda Martin

Kathleen Strunk

Assistant Professor

Lynn Clutter

Clinical Assistant Professors

Tonya Ballone-Walton

Helen Hansen

Carla Lynch

Mindy Thompson

The School of Nursing's undergraduate curriculum leads to the Bachelor of Science degree in Nursing (B.S.N.). The curriculum provides a broad general education and a solid professional program based on a nursing model (the Roy Adaptation Model) rich in content and applicability. Our goal is to produce an educated individual who is a professional nurse.

Nursing Major Learning Objectives

- To value the dignity and worth of humans by practicing legally and ethically in all aspects of nursing.
- To empower individuals, families, and communities by promoting the welfare of local, state, and national health through nursing activities.
- To utilize critical thinking, independent judgment, leadership skills, and communication skills to promote achievement of optimal health.
- To apply theoretical and empirical knowledge from the humanities, physical, and behavioral sciences while committing to lifelong learning and ongoing professional development.

Accreditation

The nursing program is approved by the Oklahoma Board of Nursing. The baccalaureate nursing program is accredited by the Accreditation Commission for Education in Nursing, 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326. The School of Nursing is a member of the National League for Nursing and the American Association of Colleges of Nursing.

Applicants for Licensure

Graduates of this state-approved program are eligible to apply to write the National Council Licensure Examination (NCLEX) for registered nurses. Applicants for Oklahoma licensure must meet all state and federal requirements to hold an Oklahoma license to practice nursing. In addition to completing a state-approved nursing education program that meets educational requirements and successfully passing the licensure examination, requirements include submission of an application for licensure, a criminal history records search, and evidence of citizenship or qualified alien status. Applicants for practical nurse licensure must also hold a high school diploma or a graduate equivalency degree (G.E.D.) [59 O.S. §567.5 & 567.6]. To be granted a license, an applicant must have the legal right to be in the United States (United States Code Chapter 8, Section 1621). In addition, Oklahoma law only allows a license to be issued to U.S. citizens, U.S. nationals, and legal permanent resident aliens. Other qualified aliens may be issued a temporary license that is valid until the expiration of their visa status, or if there is no expiration date, for one year. Applicants who are qualified aliens must present to the Board office, in person, valid documentary evidence of:

1. A valid, unexpired immigrant or nonimmigrant visa status for admission into the United States;
2. A pending or approved application for asylum in the United States;
3. Admission into the United States in refugee status;
4. A pending or approved application for temporary protected status in the United States;
5. Approved deferred action status; or
6. A pending application for adjustment of status to legal permanent resident status or conditional resident status.

The Board has the right to deny a license to an individual with a history of criminal background, disciplinary action on any professional or occupational license or certification, or judicial declaration of mental incompetence [59 O.S. §567.8]. These cases are considered on an individual basis at the time application for licensure is made, with the exception of felony convictions. An individual with a felony conviction cannot apply for licensure for at least five years after completion of all sentencing terms, including probation and suspended sentences, unless a presidential or gubernatorial pardon is received [59 O.S. §567.5 & 567.6].

Admission and Progression

Once admitted to the University, students apply to the School of Nursing for admission to the nursing program. As clinical spaces are limited, a competitive selection process occurs during the spring semester for students who wish to enroll in fall sophomore-level nursing courses. International students interested in the B.S.N. must have a

TOEFL score of 80 on the computer-based exam. Foreign college credit requires a “Full Education Course-by-Course Report” by the Commission on Graduates of Foreign Nursing Schools prior to admission to the School of Nursing. Advanced standing may be obtained with approval of courses on college transcripts. Transfer students will not be permitted to pursue a nursing major at TU if they have been previously enrolled in a nursing program and were not in good standing in that nursing program upon exit. Exceptions may be granted, for good reason as determined by the director, based on individual situations if as part of their application a letter from the dean or director of the nursing program indicates eligibility for re-admission to the prior program.

Performance Standards for Admission and Progression in the Bachelor of Science in Nursing

The University of Tulsa is committed to compliance with Section 504 of the Rehabilitation Act of 1973 and with the Americans with Disabilities Act (ADA) of 1990. Therefore, the School of Nursing at The University of Tulsa seeks to ensure that qualified persons with disabilities are not denied admission or subject to discrimination in admissions.

The Performance Standards for Admission and Progression in the Bachelor of Science in Nursing establish the expectations and requisite abilities considered essential for students admitted to the clinical component of the nursing program in order to achieve the level of competency required for graduation and practice. These include abilities in eight categories: critical thinking, interpersonal, communication, mobility, motor skills, hearing, visual, and tactile.

It is recognized that degrees of ability vary widely among individuals. Any candidate who feels that he or she may not meet the Performance Standards for Admission and Progression in the Bachelor of Science in Nursing as set forth in this *Bulletin* is encouraged to contact the director of the School of Nursing. Any candidate who may require academic accommodations to fulfill the technical standards due to a disability is encouraged to contact the Center for Student Academic Support at 918-631-2315. The University of Tulsa is committed to enabling its students, by any reasonable means or accommodations, to complete the course of study leading to the Bachelor of Science in Nursing.

All students are assigned a faculty advisor to assist them in their advancement through the program. Students must earn a grade of C or higher in all nursing foundation courses before entering courses for which the nursing foundation course is a prerequisite. The student must have a University of Tulsa cumulative grade point average of at least 2.5 before entering the Level I sophomore year nursing course and in order to progress to Level II junior and Level III senior nursing major courses. A student who receives a grade below C in any nursing major or nursing foundation course is dismissed from the program, but may reapply for admission to the program. If a student leaves the nursing program for more than six semesters (excluding summers), the student must retake all nursing courses beginning with the second semester sophomore courses, if readmitted.

Nursing Scholarships

Grants, loans, and work-study opportunities are available through the University's Office of Student Financial Services. Scholarship funds, such as the Nettie M. Jones

Foundation scholarships, have been established for the School of Nursing. To apply for a nursing scholarship, a student must be admitted to The University of Tulsa, complete the FAFSA financial aid form, and have the results sent to the University each spring semester.

Additional funds may be awarded directly to the student for junior and senior years by Tulsa-area hospitals. Students repay these additional funds by working for the funding institution after graduation. Out-of-town students who plan to return home after graduation should check with their local hospitals for similar financial assistance.

Advanced Standing Program for Registered Nurses

The School of Nursing has adopted the Oklahoma Nursing Articulation Model for Registered Nurses. Progression is based on experience, and/or refresher course, or equivalent, and accreditation of the basic nursing program. The procedure for The University of Tulsa School of Nursing is to verify the following:

1. Current Oklahoma licensure,
2. Transcripts,
3. Basic nursing program accreditation, and
4. Recent employment (up to 5 years previous) or refresher course completion.

The Bachelor of Science in Nursing (B.S.N.) degree requires 125 credit hours for graduation. A maximum of 37 credit hours may be earned by proficiency examinations, transcript evaluation, clinical experience, and licensure. A maximum of 60 credits for equivalent courses may be transferred from a two-year community/junior college. Credit may be earned by transfer credit and proficiency exam for the following lower division nursing courses: AHS 2122; NSG 2233, 2254, 2264, and 2273. Credit will be awarded for NSG 3154, 3164, 3174, 3254, 3264, and 3274 (24 credit hours) after successful completion of nursing senior courses or proficiency examination. For further information, consult the director of the School of Nursing.

Upward Mobility Program for Licensed Practical Nurses

Licensed Practical Nurses may earn up to 13 credit hours through proficiency examinations for NSG 2254, 2264, 2273 and AHS 2122. L.P.N. students are required to take NSG 2023 in addition to the standard B.S.N. requirements. For further information, consult the director of the School of Nursing.

Other Information and Requirements

Nursing students must also meet the following requirements:

Criminal Background Check and Drug Testing: Nursing students are required for specific clinical placement to have a criminal background check conducted. This check is required at the time of admission to the nursing program and as specified by clinical agencies. All nursing students must also have required drug testing to progress in nursing courses.

Liability Insurance: Liability insurance is required for any student enrolled in nursing clinical courses. Insurance fees are listed under Health sciences program fees on page 33 of this *Bulletin* and are automatically billed to the student's account through the Bursar's Office.

Health Requirements: Prior to beginning clinical observations and yearly thereafter, students must complete training in blood-borne pathogens, HIPAA, the Right to Know

(OSHA communication standard), fire safety, and TB prevention. Students are required to present proof of the following immunizations and screenings to the School of Nursing: TB test using CDC guidelines for two step method or chest X- ray, measles, mumps, rubella (MMR), tetanus, diphtheria, pertussis (Tdap), hepatitis B, varicella, and flu. These may be done at the Alexander Health Center on campus for a fee or at a private physician's office. Students who do not desire the required rubella or hepatitis B immunization must sign a waiver. Students must also have their healthcare provider complete the "Performance Standards" document confirming the students' abilities in eight categories.

Transportation and Uniforms: Students are responsible for providing their own transportation to clinical areas and are required to buy their own uniforms, in accordance with the program dress code. See the *Nursing Student Handbook* for dress code.

Cardiopulmonary Resuscitation (CPR): Prior to sophomore admission and every year thereafter, nursing students must provide documentation of American Heart Association Basic Life Support for Healthcare Provider certification.

Equipment: For nursing clinical courses, students are required to purchase a mobile handheld device and clinical software. Additional equipment for clinical courses must be purchased in the sophomore and junior years.

Clinical Hub Fee: The clinical hub is a system developed for schools to schedule clinical experiences and for clinical agencies to obtain information about students using their agencies. Students must pay an annual fee directly through the clinical hub.

Licensure

The University of Tulsa cannot guarantee that completion of the baccalaureate program of nursing will enable a graduate to take the National Council of State Boards of Nursing Licensure Examination.

Bachelor of Science in Nursing (B.S.N.)

All students in the School of Nursing are exposed to four distinct areas of study leading to completion of the Bachelor of Science in Nursing (B.S.N.): the Tulsa curriculum (comprised of two parts: the core curriculum and the general curriculum), the nursing foundation courses, and the nursing major requirements.

The 125-credit-hour degree program consists of the following requirements:

I. Tulsa Curriculum (40 hours)

Every undergraduate must fulfill the requirements of the Tulsa curriculum, which has two parts: the core curriculum and the general curriculum.

A. Core Curriculum (14 hours)

ENGL 1033, ENGL 3003, NSG 1001, MATH 1093, MIS 1001, QM 2013

B. General Curriculum (26 hours)

Block I (6 hours)

Block II (12 hours including BUS 1013)

Block III (CHEM 1004, BIOL 2173, and BIOL 2171)

II. Major Foundation Courses (15 hours)**III. Nursing Major Requirements (62 hours)****IV. Electives (5 hours)****V. Nursing Major Electives (3 hours)****Nursing Foundation Courses**

(22 hours, of which 7 hours also apply to Tulsa curriculum)

Consists of biological, behavioral, and statistical sciences prerequisites to all levels in the nursing major. The following courses must be completed with a grade of C or higher:

Prior to Level I Clinical - Second semester (13 hours)

AHS 2122, Normal Nutrition

BIOL 2153, Human Anatomy (part of the General Curriculum hours)

BIOL 2151, Human Anatomy Laboratory (part of the General Curriculum hours)

BIOL 2173, Human Physiology (Block III)

BIOL 2171, Human Physiology Laboratory (Block III)

PSY 3063, Developmental Psychology

Prior to Level II Clinical (3 hours)

AHS 2223, Microbiology for Health Professionals

Prior to Level III - Second semester (6 hours)

AHS 4043, Introduction to Applied Health Care Research

QM 2013, Statistics I (part of the Core Curriculum hours)

Nursing Major

The major in nursing is offered in Levels (Level I - sophomore; Level II - junior; Level III - senior) and builds upon basic knowledge and skills in the core curriculum, broad experience in the general curriculum, and specific knowledge and skills in the major prerequisites. The major is sequentially based on a hierarchy of knowledge. Students cannot progress within a level or to the next level without successfully completing prior courses with a grade of C or higher.

Nursing Major Requirements (62 hours):

- NSG 1012, Overview of Nursing
- NSG 2233, Pharmacology and Metrology
- NSG 2254, Applied Science I
- NSG 2264, Nursing Science I
- NSG 2273, Nursing Interventions I
- NSG 3154, Applied Science II
- NSG 3164, Nursing Science II
- NSG 3174, Nursing Interventions II
- NSG 3254, Applied Science III
- NSG 3264, Nursing Science III
- NSG 3274, Nursing Interventions III
- NSG 4154, Applied Science IV
- NSG 4164, Nursing Science IV
- NSG 4174, Nursing Interventions IV
- NSG 4232, Nursing Trends
- NSG 4263, Nursing Science V
- NSG 4275, Nursing Interventions V

(NSG 2023, Health Assessment Across the Life Span, is required for Licensed Practical Nurses utilizing advanced placement procedures and for Registered Nurses transferring credit for NSG 2254, 2264, and 2273.)

Sequenced Program of Study**Freshman Year****Fall Semester (15 hours)**

ENGL 1033, Exposition and Argumentation
MATH 1093, Mathematics with Applications
BIOL 2153, Human Anatomy (Block III)
BIOL 2151, Human Anatomy Lab (Block III)
BUS 1013, Business and Society (Block II)
NSG 1001, Nursing Orientation
Block I elective (3 hours)
MIS 1001, Introduction to Spreadsheets

Spring Semester (15 hours)

Block I elective (3 hours)
Block II elective (3 hours)
Block II elective (3 hours)
BIOL 2173, Human Physiology
BIOL 2171, Human Physiology Lab
Elective (2 hours)

Sophomore Year**Fall Semester (17 hours)**

NSG 1012, Overview of Nursing
Block II elective (3 hours)
PSY 3063, Developmental Psychology
CHEM 1004, Chem. in Medicine (Block III)
AHS 2122, Normal Nutrition
Block I elective (3 hours)

Spring Semester (17 hours)

NSG 2254, Applied Science I
NSG 2264, Nursing Science I
NSG 2273, Nursing Interventions I
NSG 2233, Pharmacology and Met.
AHS 2223, Microbiol. For Health Prof.

Junior Year**Fall Semester (15 hours)**

NSG 3154, Applied Science II
NSG 3164, Nursing Science II
NSG 3174, Nursing Interventions II
QM 2013, Statistics I

Spring Semester (15 hours)

NSG 3254, Applied Science III
NSG 3264, Nursing Science III
NSG 3274, Nursing Interventions III
AHS 4043, Intro. to Appl. H. C. Res.

Senior Year**Fall Semester (15 hours)**

NSG 4154, Applied Science IV
NSG 4164, Nursing Science IV
NSG 4174, Nursing Interventions IV
Elective (3 hours)

Spring Semester (16 hours)

NSG 4263, Nursing Science V
NSG 4275, Nursing Interventions V
NSG 4232, Nursing Trends
ENGL 3003, Writing for the Prof.
NSG elective (3 hours)

Nursing (NSG)

1001 (1 hour)

Nursing Orientation

An introduction to college life and an overview of academic and professional expectations for nursing majors.

1012 (2 hours)

Overview of Nursing

Professional, historical, social, and political forces that affect nursing and health care. Conceptual framework and major concepts of the curriculum are presented. Emphasis on the School's use of the Roy Adaptation Model of Nursing Practice. Prerequisite: Admission to the nursing program or permission from the director of the School of Nursing.

2023 (3 hours)

Health Assessment Across the Life Span

Health assessment through the life span based on the Roy Nursing Adaptation Model. Emphasis on techniques of history-taking and health assessment as part of nursing process. Includes theory, demonstration, and practice.

2103 (3 hours) Block 2

Human Sexuality

Introduction to human sexuality, providing basic understanding of biopsychosocial factors in human sexual functioning. Opportunity for students to explore their own values and attitudes. Not designed specifically for nursing majors.

2233 (3 hours)

Pharmacology and Metrology

Basic principles of pharmacotherapeutics utilized by professional nurses, and metrology calculation related to drugs and solutions. Prerequisite: CHEM 1004; or CHEM 1013 and 1011. Corequisites: NSG 2254, 2264, 2273.

2254 (4 hours)

Applied Science I

Health and simple disruptions in daily life. Includes physiology and pathophysiology. Prerequisites: BIOL 2153, 2151, 2173, and 2171; PSY 3063 or AHS 2133. Corequisites: NSG 2264 and 2273.

2264 (4 hours)

Nursing Science I

Assessment of the individual experiencing health and simple disruptions in daily living across the life span. Use of the nursing process to promote health. Prerequisites: PSY 3063 or AHS 2133; BIOL 2153, 2151, 2173, and 2171. Corequisites: NSG 2233, 2254, and 2273.

2273 (3 hours)

Nursing Interventions I

Application of concepts and principles from Applied Science I and Nursing Science I in the care of individuals across the life span in clinical settings. Prerequisites: PSY 3063 or AHS 2133; BIOL 2153, 2151, 2173, and 2171. Corequisites: NSG 2233, 2254, and 2264.

3154 (4 hours)

Applied Science II

Acute disruptions of health across the life span. Includes pathophysiologic and psychopathologic processes, applied theories, medical, nutritional, and pharmacological management. Prerequisites: NSG 2233, 2254, 2264, and 2273; AHS 2223. Corequisites: NSG 3164 and 3174.

3164 (4 hours)

Nursing Science II

Use of the nursing process to help individuals and families adapt to acute disruptions of health presented in Applied Science II. Prerequisites: NSG 2233, 2254, 2264, and 2273; AHS 2223. Corequisites: NSG 3154 and 3174.

3174 (4 hours)

Nursing Interventions II

Laboratory application of the concepts and principles from Applied Science II and Nursing Science II in the care of individual and family patients across the life span in acute care and community settings. Prerequisites: NSG 2233, 2254, 2264, and 2273; AHS 2223. Corequisites: NSG 3154 and 3164.

3254 (4 hours)

Applied Science III

Continuation of Applied Science II, with emphasis on acute disruptions of health across the life span. Includes psychopathologic and pathophysiologic processes, applied theories, medical, nutritional, and pharmacological

management. Prerequisites: NSG 3154, 3164, and 3174. Corequisites: NSG 3264 and 3274.

3264 (4 hours)**Nursing Science III**

Continuation of Nursing Science II with emphasis on the nursing process to promote adaptation of individual patients and families experiencing acute disruptions of health presented in Applied Science III. Prerequisites: NSG 3154, 3164, and 3174. Corequisites: NSG 3254 and 3274.

3274 (4 hours)**Nursing Interventions III**

Laboratory application of concepts and principles from Applied Science III and Nursing Science III in the care of individual patients and families across the life span in acute care and community settings. Prerequisites: NSG 3154, 3164, and 3174. Corequisites: NSG 3254 and 3264.

4133 (3 hours)**International Nursing and Technology**

Focuses on the use of technology (particularly computers) in nursing practice, nursing service administration, nursing education, and nursing research. International experiences include the use of technology in nursing compared between USA and another country and examination of relevant persons' contributions to the promotion and adaptation of technology.

4154 (4 hours)**Applied Science IV**

Chronic disruptions of health across the life span. Includes pathophysiologic and psychopathologic processes, applied theories, medical, nutritional, and pharmacological management. Prerequisites: NSG 3254, 3264, and 3274. Corequisites: NSG 4164 and 4174.

4164 (4 hours)**Nursing Science IV**

Use of the nursing process to promote adaptation of individual, family and community patients experiencing chronic/complex disruptions of health presented in Applied Science IV. Prerequisites: NSG 3254, 3264, and 3274. Corequisites: NSG 4154 and 4174.

4174 (4 hours)**Nursing Interventions IV**

Laboratory application of concepts and principles from Applied Science IV and Nursing Science IV to the care of individual, family and community patients experiencing complex/chronic health disruptions in acute care and community settings. Prerequisites: NSG 3254, 3264, and 3274. Corequisites: NSG 4154 and 4164.

4213 (3 hours)**Challenges of Childhood**

Challenges presented by developmental disability to child, family, and community; and genetic, prenatal, environmental and cultural influences on diagnoses/syndromes of children with special needs. Emphasis on family-centered care as the cornerstone of intervention. For students in any field that involves caring for children with special needs.

4232 (2 hours)**Nursing Trends**

Historical, philosophical, and social issues affecting nursing and nursing education, with predictions about future nursing roles and professional responsibilities. Prerequisites: NSG 3254, 3264, and 3274.

4263 (3 hours)**Nursing Science V**

Introduction to concepts of nursing administration. Focus on nursing leadership theory and management skills. Prerequisites: NSG 4154, 4164, and 4174; AHS 4043. Corequisite: NSG 4275.

4275 (5 hours)**Nursing Interventions V**

Refinement of skill in applying nursing process, principles of leadership and management in the care of patients experiencing health disruptions across the life span in a variety of settings. Prerequisites: NSG 4154, 4164, and 4174; AHS 4043. Corequisite: NSG 4263.

4903 (3 hours)**Understanding Electrocardiography**

Physiologic/pathophysiologic processes of cardiac function. Includes practicum in rhythm strip analysis and incorporation of electrocardiographic data in decision-making for client care. Prerequisites: NSG 4154, 4164, and 4174.

Applied Health Sciences (AHS)

2013 (3 hours)

Statistics for the Health Sciences

Basic descriptive and inferential statistical procedures with emphasis on their application in applied health settings: frequency distributions, measures of central tendency and dispersion, simple regression, correlation, and hypothesis testing. Prerequisites: MATH 1093 and MIS 1001, or permission of instructor.

2122 (2 hours)

Normal Nutrition

Principles of nutrition and the complex interaction between good nutrition and good health. Views optimal nutritional status as an essential component of health promotion.

2123 (3 hours) Block 2

Folk Healing

Provides a multicultural exploration of folk (generic) healing beliefs of traditional peoples. Students define universally common healing practices and make theoretical links between folk healing and health, behavioral and social sciences.

2133 (3 hours)

Life Span Processes

Biophysical and psychosocial processes as they occur over the life span of the individual, with emphasis on aspects of growth in the human organism of interest to the health professional. Selected processes are discussed as they occur from conception to death.

2223 (3 hours)

Microbiology for Health Professionals

Introductory course in microbiology, including microorganism characteristics, growth requirements, and methods of transfer. Emphasis on the effect of microorganisms on health of individuals and the principles underlying immunity. Prerequisite: CHEM 1004 or both CHEM 1013 and 1011; or both BIOL 2153 and BIOL 2173 or equivalent; or permission of instructor.

4043 (3 hours)

Introduction to Applied Health Care Research

The scientific basis of applied health care, evaluation of published research, and application of research findings to practice. Research articles are critiqued and a group research proposal is developed. Prerequisites: QM 2013 or equivalent and junior standing or permission of instructor.

4113 (3 hours)

Health Management Techniques

Presentation of the major theories, concepts, and practices of traditional organizational systems applied to the business and management of complex healthcare systems. Students will participate in a teaching-learning process through case study analysis, presentation, and discussions, which will help them understand that health care leaders must effectively design and administer health care organizations while simultaneously managing and adapting to changes in both a macro- and micro-environmental context. Prerequisites: ENGL 1033 and BUS 1013.

The College of Engineering and Natural Sciences

The College of Engineering and Natural Sciences has diversified undergraduate programs in applied mathematics, biochemistry, biogeosciences, biology, chemical engineering, chemistry, computer science, electrical and computer engineering, electrical engineering, engineering physics, geosciences, information technology, mathematics, mechanical engineering, petroleum engineering, and physics. The overall academic approach in the College of Engineering and Natural Sciences is to encourage curiosity and to transform that curiosity into love of learning. A distinguishing characteristic of our academic programs is the opportunity for undergraduate students to participate in meaningful research with professors. Our classes are taught by faculty members who recognize and address individual student instructional needs.

Mission Statement

The mission of the College of Engineering and Natural Sciences is to provide a modern, high-quality educational experience for all of our students. We provide the knowledge and principles on which engineering and science are founded in order to graduate engineers and scientists who are technically competent, creative, literate, ethically informed, and socially aware.

Accreditation

The Bachelor of Science degree programs in chemical engineering, electrical engineering, engineering physics, mechanical engineering, and petroleum engineering are accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. The Bachelor of Science in computer science is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>. The Bachelor of Science degree in chemistry is approved by the American Chemical Society.

Students may design a program qualifying them to obtain state certification to teach. Information regarding this program can be obtained from the School of Urban Education in the Henry Kendall College of Arts and Sciences and the major department advisor.

Undergraduate Degree Options and Curricula

The College offers undergraduate curricula leading to the following bachelor's degrees:

- Applied Mathematics (B.S.A.M.)
 - Biomathematics Option
 - Business Option
 - Computer Sciences Option
 - Education Option
 - Engineering Option
- Biochemistry (B.S.B.)
- Biogeosciences (B.S.B.G.)

- Biological Science
 - B.S.
 - B.A.
- Chemical Engineering (B.S.Ch.E.)
 - Business Option
 - Environmental Engineering Option
 - Materials Option
 - Petroleum Refining Option
 - Pre-med Option
- Chemistry
 - B.S.C.
 - B.A.
- Computer Science (B.S.C.S.)
- Earth and Environmental Sciences (B.A.)
- Electrical and Computer Engineering (B.S.E.C.E.)
- Electrical Engineering (B.S.E.E.)
- Engineering Physics (B.S.E.P.)
- Geology (B.A.)
- Geophysics (B.S.G.P.)
- Geosciences (B.S.G.S.)
 - Environmental Science Option
 - Geology Option
- Information Technology (B.S.I.T.)
- Mathematics
 - B.S.
 - B.A.
- Mechanical Engineering (B.S.M.E.)
- Petroleum Engineering (B.S.P.E.)
 - Chemical Engineering Minor
 - Geosciences Minor
 - Mechanical Engineering Minor
- Physics
 - B.S.
 - B.A.

Admission to certain degree programs may be limited and have additional academic requirements or a separate program application.

Honors Program

Freshmen entering the College of Engineering and Natural Sciences with exceptional records will be considered for the University's Honors Program. More information about the Honors Program may be found on pages 20 and 84 of this *Bulletin* or at www.utulsa.edu/academics/Honors-Program.aspx.

Tau Beta Pi

Students in engineering or the physical sciences and other closely related fields who are in the upper eighth of the junior class or the upper fifth of the senior class are eligible for membership in Tau Beta Pi, the national engineering honor society. Candidates must also exhibit personal integrity, a range of interests within and outside of the field of engineering, and an ability to adapt to a wide range of professional situations.

Academic Programs

Advanced Standing

All previous education presented to the College of Engineering and Natural Sciences for advanced standing must conform to applicable University requirements and is subject to the following special requirements:

- No more than 36 hours of advanced standing credit may apply through testing (International Baccalaureate, OSSM, Advanced Placement or proficiency exam).
- Course credits with grades of D normally do not transfer from other schools.
- Upper-level engineering courses normally do not transfer from schools that are not accredited by ABET (Accreditation Board for Engineering and Technology).
- The last 45 semester hours in a degree program must be completed in residence.
- Final/official transfer evaluations will be based on specific balance sheets current at the time of a student's first enrollment and will not necessarily apply to another curriculum if the student changes majors.
- International students and others who apply for advanced standing credit for studies completed at foreign institutions must present certified English translations of transcripts or their equivalents from all foreign institutions attended.

Documents and transcripts from foreign institutions are subject to individual review and interpretation. It is not unusual to require international students to validate course work of unknown quality by examination and to repeat courses in areas where knowledge appears inadequate. Credit for work completed at a foreign institution is always subject to review and reassessment because of differences in accrediting practices, grading methods and customs, and course content. Such credit is normally recorded as total hours of advanced standing for a specific curriculum and will not necessarily apply to another curriculum.

Advanced standing may be granted for junior college for work up to one-half the hours required for graduation from the University. Such credit should be obtained before admission. Additional junior college work will be credited toward a degree from the University only by permission before enrollment in courses.

Permission to transfer additional junior college hours will be granted only if there are extenuating circumstances that prevent the student from taking a similar course at The University of Tulsa. Students who want permission to transfer additional junior college hours should submit a written request to the associate dean for academic affairs before enrolling at a junior college. The extenuating circumstances that make the transfer of the additional hours necessary should be spelled out clearly in the written request. Tuition differentials, personal finances, or the fact that a course may be easier at a junior college do not qualify as extenuating circumstances.

Special Requirements

In all programs in the College of Engineering and Natural Sciences, students must maintain an overall minimum grade point average of 2.0 as well as a 2.0 or better in their major courses, as defined by the individual department. In addition to these requirements, many programs also require minimum grade point average and completion time limits after admission on specified foundation courses.

Students wishing to change majors must satisfy the foundation course requirements (if any) of their new major and receive permission of the department chair in their new major.

The table below indicates special minimum grade point requirements for each degree program. The designated foundation courses for a particular program are detailed in the sections containing degree requirements.

Department	Minimum Overall GPA Required	Minimum GPA Required in Major Courses	Minimum GPA Required in Foundation Courses	Semesters to Complete Foundation Courses
Biological Science	2.0	2.2		
Chemical Engineering	2.0	2.0	2.5	3
Chemistry and Biochemistry	2.0	2.0		
Computer Science	2.0	2.0		
Electrical and Computer Engineering	2.0	*		
Geosciences	2.0	**	2.5	3
Mathematics	2.0	2.0		
Mechanical Engineering	2.0	2.0	2.5	4
Petroleum Engineering	2.0	2.5	2.75	3
Physics and Engineering Physics	2.0	2.0		

*Grade of C or better required in all electrical engineering courses.

**Grade of C or better required in all required geoscience courses.

No student in the College of Engineering and Natural Sciences may attempt any course in which a grade of F has been received in any two previous attempts, unless permission is obtained.

Students typically complete Exposition and Argumentation (ENGL 1033) during their first semester in residence, followed by Writing for the Professions (ENGL 3003) in the junior year. However, some incoming students will be placed in ENGL 1004, Introduction to College Writing, in order to provide them with additional skills necessary for college-level writing. These students will complete ENGL 1004 and ENGL 1033 in their first two semesters in residence, followed by ENGL 3003 in the junior year.

Students wishing to enroll in courses that have prerequisites must satisfactorily complete those prerequisites before enrolling in the more advanced class, unless granted written permission by the instructor and their faculty advisor prior to that enrollment.

Students who have failed a course may not subsequently take a proficiency exam as replacement for that course.

Students who have attempted a course at The University of Tulsa may not receive credit for that course from another institution.

Pass/D-F Grading

The decision to take a course on a Pass/D-F basis must be made within the first three weeks of a regular semester or by the published deadlines for each summer session. Changing from a letter grade to the Pass/D-F option or back to a letter grade must be completed during this period. The student must obtain approval to take a course Pass/D-F from the College Office of Advising. Deadlines for declaring this option are not subject to change.

Students enrolled in the College of Engineering and Natural Sciences may complete up to 18 semester hours of coursework offered by other colleges on a Pass/D-F basis, but no more than 4 hours in any given semester. Engineering and science majors may not take courses offered by the College of Engineering and Natural Sciences Pass/D-F. Engineering and science majors may not take ENGL 1004, 1033, or 3003 Pass/D-F. Engineering and science majors may not take any courses designated HON or GLSC on a Pass/D-F basis. A course in the College of Engineering and Natural Sciences which is graded only on a Pass/D-F basis (such as an introduction to the major) is not considered part of the 18-hour total. A student on a semester Study Abroad may be allowed to take more than one course Pass/D-F, subject to approvals by the Center for Global Education and the College. A course previously taken for a letter grade may not be repeated on a Pass/D-F basis.

Probation

In addition to the University's probation regulations, the College of Engineering and Natural Sciences has the following specific requirements:

- The maximum load for a student on probation is 14 semester hours during a semester and seven hours during any summer session.
- Freshmen and sophomores on probation, and all students a grade point averages lower than 2.0 at the end of their sophomore years, must repeat certain courses for which a D grade is recorded during their next academic term in residence, provided the courses are in the official schedule of courses for that term. Courses to be repeated are specified by the student's advisor.
- A grade of F in any required mathematics, science, or professional engineering course requires repetition at the next opportunity while the student is in residence. The advisor may require repetition of any course prerequisite to the courses failed.

Electives

Students in the College of Engineering and Natural Sciences must fulfill all relevant requirements of the Tulsa curriculum described on page 18 of this *Bulletin*. In addition, many curricula contain a number of elective courses. The following specific requirements apply to electives and the Tulsa curriculum:

- Students may choose to take two semesters of a single foreign language and apply them as Block I and Block II credits.

- Most courses at The University of Tulsa may be taken for general elective credit, with the following exceptions: all sections of ATRG 1991 and MUS 0021 in fall semesters. In addition, no more than three one-credit-hour music courses may apply toward a degree.

Double Majors/Double Degrees

Students who wish to pursue majors or degrees in two different fields may do so by completing the requirements for each major. Double majors or double degrees can be pursued either in one college or in two different colleges. In the latter case, permission from the deans of both colleges must be obtained at the time the second major/degree is declared.

5000 Level Courses

Certain departments have course offerings at the 5000 level, which are graduate courses available to exceptional students for undergraduate degree credit. See individual departments for availability and procedures governing enrollment.

Biogeosciences

Directors

Bryan Tapp, Geosciences

Estelle Levetin, Biological Science

The Bachelor of Science in Biogeosciences (B.S.B.G.) is an interdisciplinary degree program that draws on strengths in the Departments of Biological Science and Geosciences. The program is intended for students that are interested in career paths in the fields of environmental biogeosciences or environmental forensics, as well as students who are interested in graduate programs in the biogeosciences.

The discipline of biogeosciences is one of the more rapidly growing academic and research fields in the sciences with significant research and graduate training opportunities. The degree track provides a firm foundation for graduate or advanced professional study and for professional practice. Only the B.S. degree track is available in the program. The degree program provides significant basis in the hard sciences as well as in mathematics and statistics while incorporating the core disciplinary areas in biology and geosciences with emphasis on earth systems science. Students in the program are strongly encouraged to actively engage in research beginning at the freshman level and continuing through the senior year. The research emphasis provides a learning environment that stresses the more classical classroom and laboratory approach along with the experimental and field approach to professional practice in the field.

Students interested in the program will be assigned faculty advisors in both the Department of Biological Science and the Department of Geosciences to assure that the students receive the best advice for course selection.

Program Objectives

Program objectives for the Bachelor of Science in Biogeosciences (B.S.B.G.) degree program include:

- Understanding evolution of Earth systems,
- Understanding organic evolution as a response to changes in Earth systems, and,
- The ability to conduct field-based research and quantitatively analyze data.

Bachelor of Science in Biogeosciences (B.S.B.G.)

Mathematical Sciences11

 MATH 2014, 2024, Calculus I, II

 STAT 2013, Introduction to Statistics

Basic Sciences16

 CHEM 1013, 1011, General Chemistry I and Lab

 CHEM 1023, 1021, General Chemistry II and Lab

 CHEM 3013, 3011, Organic Chemistry I and Lab

 PHYS 2053, 2051, General Physics I and Lab

Geosciences.....30

 GEOL 1014, Physical Geology

 GEOL 1991, Introduction to the Geosciences

 GEOL 2003, History of the Biosphere

 GEOL 2143, Mineralogy

 GEOL 3153, 3151, Sedimentary Rocks and Processes and Lab

 GEOL 3573, Environmental Geology

 GEOL 4083, Introduction to Geographic Information Systems

 GEOL 4513, Hydrogeology

 GEOL 4523, Environmental Geochemistry

 GEOL 4873, Undergraduate Research

Biological Science.....32-33

 BIOL 1603, 1611 Introduction to Organismal and Evolutionary Biology and Lab

 BIOL 1703, 1711 Introduction to Molecular and Cellular Biology and Lab

 BIOL 2124, Genetics

 BIOL 2143, Evolution

 BIOL 3084, Fundamentals of Microbiology

 BIOL 3164, Field Ecology

 BIOL 4023, Environmental Microbiology *or* BIOL 3314, The Fungi and Algae

 BIOL 4093, Population Ecology

 BIOL 4213, Environmental Ethics and Conservation

Chemical Engineering.....3

 CHE 4163, Environmental Engineering

Technical Electives..... 5-6

General Electives.....3

Humanities, Social Sciences and English24

Total Hours125

Biological Science

Chair

Estelle Levetin

Professors

Charles R. Brown

Mark Buchheim

Glen E. Collier

Peggy S. Hill

Estelle Levetin

Richard L. Reeder

Harrington Wells

Associate Professors

Akhtar Ali

Ron Bonett

Kenton S. Miller

Assistant Professors

Warren Booth

Mohamed Fakhr

Instructors

Marsha J. Howard

Karen A. McMahon

The undergraduate mission of the Department of Biological Science is to provide a broad foundation in the biological principles that will permit students to successfully pursue a variety of career options including academic work in a diversity of graduate and professional programs.

The Department of Biological Science offers Bachelor of Science (B.S.), Bachelor of Arts (B.A.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.) degrees. Both B.S. degrees can be part of a combined B.S./M.S. degree program. This is a five-year program that upon completion results in the awarding of B.S. and M.S. degrees in biology. For additional information concerning M.S., Ph.D. or the combined B.S./M.S. degrees see The University of Tulsa *Graduate Bulletin*. Degree requirements are purposely flexible, providing the student with career choices in biotechnology, organismic biology, cellular biology, environmental biology, medicine, dentistry, medical technology, or further graduate training. Course work in the major, combined with studies in the University-wide Tulsa curriculum, gives the student the background required to excel in writing and reasoning and to adjust to the complexity of modern society and its component technologies.

Biological science offers a personalized departmental advising system, ease of access to all professors, high quality student peers, student clubs, and research opportunities for undergraduate students to work in the laboratories of faculty members. Facilities include electron microscopes, equipment for studies in cellular and molecular biology, immunology, genetics, and field biology. Faculty research and expertise are diverse, spanning such areas as ecology and systematics, developmental biology, and molecular and cellular biology.

Program Objectives

Students who complete the Bachelor of Science or Bachelor of Arts degree program will demonstrate skills relevant to:

- Science literacy.
- Critical thinking and communication, and
- Ethical reasoning.

Bachelor of Science with Major in Biological Science

Biological Science Major Courses
BIOL 1001, Introduction to Biological Science.....1
Biological Science Core Courses12
BIOL 1603, Introduction to Organismal and Evolutionary Biology
BIOL 1611, Introduction to Organismal and Evolutionary Biology Laboratory
BIOL 1703, Introduction to Molecular and Cellular Biology
BIOL 1711, Introduction to Molecular and Cellular Biology Laboratory
BIOL 2124, Genetics
Biological Science Electives, including at least two courses each from Clusters A, B,
and C below44
Mathematical Sciences7
MATH 2014, Calculus I
STAT 2013, Introduction to Statistics
Chemistry8
CHEM 1013, 1011, General Chemistry I and Lab
CHEM 1023, 1021, General Chemistry II and Lab
Supplementary Area of Concentration.....16
General Electives.....12
Humanities, Social Sciences and English24
ENGL 1033, Exposition and Argumentation*
ENGL 3003, Writing for the Professions
Tulsa Curriculum Blocks I and II (18 hours)
Total Hours124

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

Biology Block III courses do not count toward the major. BIOL 2151, 2153, 2171, and 2173 do not count toward the major. A student must complete the biology major with a grade point average of 2.2 or higher as well as an overall grade point average of 2.0 or higher in order to graduate.

Bachelor of Science with Major in Biological Science (Pre-Med Option)

Biological Science Major Courses

BIOL 1001, Introduction to Biological Science..... 1

Biological Science Core Courses12

BIOL 1603, Introduction to Organismal and Evolutionary Biology

BIOL 1611, Introduction to Organismal and Evolutionary Biology Laboratory

BIOL 1703, Introduction to Molecular and Cellular Biology

BIOL 1711, Introduction to Molecular and Cellular Biology Laboratory

BIOL 2124, Genetics

Biological Science Electives, including at least two courses each from Clusters A, B, and C below44

Mathematical Sciences.....7

MATH 2014, Calculus I

STAT 2013, Introduction to Statistics

Supplementary Area of Concentration.....16

CHEM 1013, 1011, General Chemistry I and Lab

CHEM 1023, 1021, General Chemistry II and Lab

CHEM 3013, 3011, Organic Chemistry I and Lab

CHEM 3023, 3021, Organic Chemistry II and Lab

Physics 8

PHYS 1013, 1011, Introductory Physics I and Lab

PHYS 1023, 1021, Introductory Physics II and Lab

General Electives12

Humanities, Social Sciences and English24

ENGL 1033, Exposition and Argumentation*

ENGL 3003, Writing for the Professions

Tulsa Curriculum Blocks I and II (18 hours)

Total Hours 124.

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

Biology Block III courses do not count toward the major. BIOL 2151, 2153, 2171, and 2173 do not count toward the major.

A student must complete the biology major with a grade point average of 2.2 or higher as well as an overall grade point average of 2.0 or higher in order to graduate.

Bachelor of Arts with Major in Biological Science

Biological Science Major Courses

BIOL 1001, Introduction to Biological Science.....1

Biological Science Core Courses12

BIOL 1603, Introduction to Organismal and Evolutionary Biology

BIOL 1611, Introduction to Organismal and Evolutionary Biology Laboratory

BIOL 1703, Introduction to Molecular and Cellular Biology

BIOL 1711, Introduction to Molecular and Cellular Biology Laboratory

BIOL 2124, Genetics

Biological Science Electives, including at least two courses each from Clusters A, B, and C below42

Mathematical Sciences.....7

MATH 2014, Calculus I

STAT 2013, Introduction to Statistics

Supplementary Area of Concentration.....16

Chemistry8

CHEM 1013, 1011, General Chemistry I and Lab

CHEM 1023, 1021, General Chemistry II and Lab

Foreign Language14

Foreign language courses typically taken in a single language

Humanities, Social Sciences and English24

ENGL 1033, Exposition and Argumentation*

ENGL 3003, Writing for the Professions

Tulsa Curriculum Blocks I and II (18 hours)

Total Hours124

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

Biology Block III courses do not count toward the major. BIOL 2151, 2153, 2171, and 2173 do not count toward the major.

A student must complete the biology major with a grade point average of 2.2 or higher as well as an overall grade point average of 2.0 or higher in order to graduate.

Minor in Biological Science

Requirements for a biology minor for those majoring in other subjects are completed by taking the following core courses: BIOL 1611, 1603, 1711, 1703, and 2124, as well as and any two advanced electives listed below.

Cluster A, Cellular and Molecular Biology

BIOL 3084, Fundamentals of Microbiology
BIOL 4003, Protein Structure and Function
BIOL 4133, Immunology
BIOL 4143, Introduction to Virology
BIOL 4163, Experimental Techniques in Molecular Biology
BIOL 4173, Principles of Neuroscience
BIOL 4183, Biology of Cancer
BIOL 4193, Biotechnology and Genetic Engineering
BIOL 4243, Mechanisms of Animal Development
BIOL 4343, Advanced Molecular Biology
BIOL 4473, Advanced Cell Biology

Cluster B, Ecology and Evolution

BIOL 2013, Ecology
BIOL 2143, Evolution
BIOL 2524, Field Botany
BIOL 3164, Field Ecology
BIOL 4023, Environmental Microbiology
BIOL 4063, Population Genetics
BIOL 4093, Population Ecology
BIOL 4153, Animal Behavior
BIOL 4213, Environmental Ethics and Conservation
BIOL 4253, Molecular Evolution
BIOL 4333, Experimental Design

Cluster C, Organismal Biology

BIOL 3174, Ornithology
BIOL 3204, Comparative Vertebrate Anatomy
BIOL 3224, Vertebrate Physiology
BIOL 3254, Comparative Vertebrate Embryology
BIOL 3314, The Fungi and Algae
BIOL 3364, Parasitology
BIOL 3454, Plant Anatomy
BIOL 3504, Plant Diversity
BIOL 3513, Medical Entomology
BIOL 4054, Histology
BIOL 4113, Pathogenic Microbiology
BIOL 4234, Comparative Animal Physiology
BIOL 4464, Plant Physiology
BIOL 4623, Medical Botany

Health Sciences

Because of the variation and frequent changes in entrance requirements among professional schools, students interested in medicine, dentistry, veterinary medicine, optometry, physical therapy, or other professional fields should obtain a pre-professional advisor within the Department of Biological Science as early in their college careers as possible.

Nursing and Allied Health Majors

Nursing, exercise and sports science, and athletic training students in consultation with a nursing advisor should enroll in the sequence BIOL 2151, 2153, 2171, and 2173.

Minor Fields for Biology Majors

Biology majors may minor in any subject. However, a minor in physical sciences (including inorganic/organic chemistry and physics) is strongly recommended since many biology elective courses presume an understanding of basic organic chemistry and most professional and graduate schools require 16 hours of chemistry, 8 hours of physics, and mathematics through calculus.

Teacher Certification

Students seeking secondary teacher certification in biology must also complete requirements for a second major in education described under the School of Urban Education beginning on page 128 of this *Bulletin*. In addition, teacher certification requires proficiency in a second language at the novice level (see page 131).

Biological Science (BIOL)

1001 (1 hour)

Introduction to Biological Science

An overview and introduction to the field of biological science.

1003 (3 hours) Block 3

Genetics and Human Diversity

Introduction to the basic principles of human genetics and their evolutionary, social, and medical implications. Not creditable toward a major in biological science.

1011 (1 hour) Block 3

Plants and Society Laboratory

Demonstrations and experiments emphasize plant structure and the integral role of plants in past and contemporary human existence. Once a week for three hours. Prerequisite or corequisite: BIOL 1013. Not creditable toward a major in biological science.

1013 (3 hours) Block 3

Plants and Society

Explores the ongoing relationship between human society and plants from prehistory to

modern times, including the integral role of plants in human nutrition, medicine, the environment, and as commercially valuable products. Not creditable toward a major in biological science.

1031 (1 hour) Block 3

The Environment and Humanity Laboratory

Laboratory and field exercises plus field trips provide firsthand knowledge of the major environmental issues challenging the world today. Once a week for three hours.

Prerequisite or corequisite: BIOL 1033. Not creditable toward a major in biological science.

1033 (3 hours) Block 3

The Environment and Humanity

Introduction to the ecological principles underlying human relationships with the physical and biological environment, including the consequences of overpopulation, environmental exploitation and deterioration

and prospects for survival. Not creditable toward a major in biological science.

1043 (3 hours) Block 3**Biology: A Way of Knowing**

Application of science, as a way of knowing, to understand living systems. The development of the major conceptual paradigms (cell theory, genetics, and evolution) is used to illustrate the scientific method. Not creditable toward a major in biological science.

1051 (1 hours) Block 3**Plagues and Pestilence Laboratory**

Hands-on learning of the relationship between humans and microbial pathogens, including human defense mechanisms. Areas covered include microbiological skills, culture methods, staining, and microscopy; observation of microbes from our environment; study of epidemiology and bioterrorism; and field trips to observe disease detection and treatment, both past and present. Once a week for three hours. Prerequisite or corequisite: BIOL 1053. Not creditable toward a major in biological science.

1053 (3 hours) Block 3**Plagues and Pestilence**

The relationship between humans and the microbial organisms that can cause disease, including appreciation of pathogenic organisms and human defense mechanisms, and the past and future impact of microbial disease on civilization and society. Not creditable toward a major in biological science.

1113 (3 hours) Block 3**The Human Body**

Introduction to the structure, organization and function of the human body, using an organ-system approach. Not creditable toward a major in biological science.

1123 (3 hours) Block 3**Introduction to Indoor Air Quality**

Course designed to explore the fundamental concepts of air quality in the indoor environment. General topics of contaminants, sources, moisture, bioaerosols, investigation methods, prevention, and control options are included in the course. Public policy related to poor indoor air quality is also included. Same as CHE 1123.

1603 (3 hours)**Introduction to Organismal and Evolutionary Biology**

Introduction to the patterns of microbial, botanical and zoological diversity and the processes that produce diversity. Corequisite: BIOL 1611.

1611 (1 hour)**Introduction to Organismal and Evolutionary Biology Laboratory**

Introduction to concepts in microbial, botanical and zoological diversity and the processes that produce diversity. Once a week for three hours. Corequisite: BIOL 1603.

1703 (3 hours)**Introduction to Molecular and Cellular Biology**

Basic molecular/biochemical composition of cells and the organization and function of both DNA and cellular structures. Corequisite: BIOL 1711.

1711 (1 hour)**Introduction to Molecular and Cellular Biology Laboratory**

Introduction to current, fundamental techniques and protocols for the study of DNA and cells. Once a week for three hours. Corequisite: BIOL 1703.

2013 (3 hours)**Ecology**

Ecological interactions among organisms, including population growth, competition, ecosystem dynamics, behavioral interactions, community structure, and landscape-level processes. Prerequisites: BIOL 1603, 1611, 1703, 1711.

2124 (4 hours)**Genetics**

Principles of transmission, mutation, and function of genetic material. Application of genetic analysis to other biological questions. Lecture three hours per week, laboratory two hours per week focusing on problem solving and data analysis. Prerequisites: BIOL 1603, 1611, 1703, 1711.

2143 (3 hours)**Evolution**

Patterns of biological diversity and processes that produce and maintain diversity.

Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

2151 (1 hour)**Human Anatomy Laboratory**

Introduction to human anatomy following an organ system organization and emphasizing a hands-on approach through the examination of microscopic slides, animal and organ dissections, and models. Once a week for three hours; required for a major in nursing, athletic training, or exercise and sports science. Not creditable toward a major in biological science or biochemistry.

2153 (3 hours)**Human Anatomy**

Introduction to the structure of the human body using an organ systems approach. Required for a major in nursing, athletic training, or exercise and sports science. Not creditable toward a major in biological science or biochemistry.

2171 (1 hour)**Human Physiology Laboratory**

Introduction to human physiology using an investigative approach to study the functioning of the human body through experimentation and physiological data acquisition software. Once a week for three hours; required for a major in nursing, athletic training, or exercise and sports science. Not creditable toward a major in biological science or biochemistry.

2173 (3 hours)**Human Physiology**

Function of major organ systems of the human body and significance for major disease processes. Required for a major in nursing, athletic training, or exercise and sports science. Recommended for students pursuing postgraduate work in allied health fields. An introductory biology course (e.g., BIOL 1043) is recommended prior to taking BIOL 2173. Not creditable toward a major in biological science or biochemistry.

2524 (4 hours)**Field Botany**

Flowering plant identification and systematics, with emphasis on Oklahoma flora. Independent research project required. Lecture two hours per week, field investigation (or

laboratory) four hours per week. Prerequisites: BIOL 1613 and 1611.

3084 (4 hours)**Fundamentals of Microbiology**

Microbial physiology and genetics beyond material presented in the core curriculum. Topics can include microbial structure and function, growth and energetics, gene transfer, plasmids and phage biology, microbial ecology, and an introduction to pathogenic microorganisms. Lecture three hours per week, laboratory three hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

3164 (4 hours)**Field Ecology**

Emphasizes ecological principles through field experiments. Includes design and implementation of field studies and analysis of data and hypothesis testing on topics such as population size, pollination biology, animal behavior, demography, conservation biology, habitat selection, community organization. Independent research project required. Lecture and laboratory combined, four hours per week. Prerequisites: BIOL 1603, 1611.

3174 (4 hours)**Ornithology**

Examination of evolution, ecology, morphology, behavior, physiology, and natural history of birds. Laboratory emphasizes identification and systematics of species found in Oklahoma. Lecture three hours per week, laboratory three hours per week. Prerequisite: BIOL 1603, 1611.

3204 (4 hours)**Comparative Vertebrate Anatomy**

Comparative structure and function of chordate organ systems with emphasis on vertebrates. Lecture three hours per week, laboratory six hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

3224 (4 hours)**Vertebrate Physiology**

Vertebrate organ systems: their modes of action, interactions, and contributions to homeostasis. Lecture three hours per week, laboratory three hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124, CHEM 1011, 1013, 1021, 1023.

3254 (4 hours)**Comparative Vertebrate Embryology**

Comparative developmental anatomy of the vertebrates. Lecture three hours per week, laboratory four hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

3314 (4 hours)**The Fungi and Algae**

Diversity and basic biology of the fungi and the algae including those aspects that influence human activities and health. Lecture three hours per week, laboratory three hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

3364 (4 hours)**Parasitology**

Parasites of human and veterinary importance, emphasizing morphology, laboratory identification, life histories, pathology, diagnosis, and economic importance. Lecture three hours per week, laboratory four hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

3454 (4 hours)**Plant Anatomy**

Vascular plant structure emphasizing microscopic anatomy of tissues and organs and utilizing both light and electron microscopy. Lecture three hours per week, laboratory three hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

3504 (4 hours)**Plant Diversity**

Diversity and morphology of the true plants from the mosses through the flowering plants with emphasis on the evolutionary history of these organisms using fossil, structural, and molecular evidence. Lecture three hours per week, laboratory three hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

3513 (3 hours)**Medical Entomology**

Morphology, life history, and identification of arthropods of medical and veterinary significance and their role in the epidemiology of arthropod born diseases. Lecture two hours per week, laboratory 2 hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711.

3991, 3992, 3993 (1-3 hours)**Independent Research****4003 (3 hours)****Protein Structure and Function**

An examination of the relationship between structure and function in protein chemistry, with detailed considerations of enzyme kinetics, and protein-protein and protein-nucleic acids interactions. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124, and CHEM 3011, 3013, or 4133.

4023 (3 hours)**Environmental Microbiology**

Environmental microbiology of soil, air, and water focusing on topics of current interest, including problems in environmental biology and their solutions as they relate to microorganisms. Prerequisites: BIOL 3084 or BIOL 3314.

4054 (4 hours)**Histology**

Microscopic anatomy and histophysiology of tissues and organs of mammals. Correlation of structure and function is emphasized. Lecture three hours per week, laboratory four hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124; a previous physiology or anatomy course is recommended but not required.

4063 (3 hours)**Population Genetics**

The genetic composition of populations and the forces that lead to allele frequency change as well as equilibrium. Topics include the effects of random mating, inbreeding, mutation, migration, selection and stochastic processes on the genetic structure of populations. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4083 (3 hours)**Experimental Microbiology**

Lecture/laboratory course that emphasizes methods in microbial genetics and microbial physiology. Includes laboratory exercises in preparation of the experimental design and execution. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124, 3084.

4093 (3 hours)**Population Ecology**

Quantitative approach to the study of plant and animal populations with emphasis on such concepts as density, dispersal, structure, and dynamics. Lecture and laboratory combined, three hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4113 (3 hours)**Pathogenic Microbiology**

General principles of medical microbiology, microorganisms that cause disease, and details of the disease process. General principles of pathogenic mechanisms, host defense systems and disease treatment strategies are introduced and applied to the study of specific pathogens (mostly bacterial pathogens) and their accompanying diseases. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4123, 4124 (3-4 hours)**Selected Topics in Microbiology**

Lecture or lecture/lab examination of current research in selected topic in microbiology. The topic varies depending on the interest and expertise of the presenter. Topics addressed may include bacterial genetics, evolution and molecular biology. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124; BIOL 3084 recommended.

4133 (3 hours)**Immunology**

Comprehensive survey of cellular and molecular mechanisms involved in host immune protection, auto immunity, and immunopathologic processes. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4143 (3 hours)**Introduction to Virology**

An introduction to the biology of viruses. Topics include the origin, pathology, and molecular mechanisms of viruses. Lecture, reading assignments and student presentations. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4153 (3 hours)**Animal Behavior**

Introduction to classical ethology and behavioral ecology. Topics include animal communication, foraging, sexual selection, mating systems, social organization, spacing

patterns, learning, evolutionarily stable strategies, alternative mating tactics, and human sociobiology. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4163 (3 hours)**Experimental Techniques in Molecular Biology**

Isolate and detect RNA, DNA and protein; manipulate RNA and DNA; clone a gene of interest using polymerase chain reaction, and sequence DNA. Provides background for further work in cell biology, virology, biotechnology, disease diagnostics and microbiology. Lecture and laboratory combined four hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4173 (3 hours)**Principles of Neuroscience**

Foundational topics in neuroscience, including neural/glial cell function, sensory systems, motor systems and cognitive functions. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124; a previous physiology course is recommended but not required.

4183 (3 hours)**Biology of Cancer**

Current concepts, genetics, and molecular events leading to the development of human cancer from DNA mutagenesis to cellular transformation. Additional topics include cell cycle control, oncogenes, environmental sources of cancer (e.g., radiation, asbestos), histopathology, immunogenetics, tumor suppressors, metastasis, and anti-cancer treatment strategies. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4193 (3 hours)**Biotechnology and Genetic Engineering**

Impact of new techniques in biotechnology, potential uses, limitations and ethical considerations. Topics include basic and modern concepts of genetic engineering, methodology of gene manipulation, and modern applications in agricultural, industrial, pharmaceutical, and biomedical fields. Emphasis on the engineering aspects not the genetics. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4213 (3 hours)**Environmental Ethics and Conservation**

Students explore their own ethical positions and the basis for such positions. Through individual writing and a team presentation, students focus on current environmental ethical questions, including the concept of a “land ethic,” and learn to think ethically and critically about issues. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4234 (4 hours)**Comparative Animal Physiology**

Comparisons of bodily functions of major vertebrate and invertebrate groups with special emphasis on adaptations for survival and for maintenance of homeostasis in a variety of environments. Lecture three hours per week, laboratory three hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124; CHEM 1011, 1013, 1021, 1023.

4243 (3 hours)**Mechanisms of Animal Development**

Analysis of mechanisms of differentiation and development in several model animal systems. Emphasis on the genetic contribution to the developmental program, cell:cell interactions and environmental factors that influence development. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4253 (3 hours)**Molecular Evolution**

The evolution of macro molecules; the rates and patterns of change in DNA and proteins and the mechanism responsible for these changes. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4263 (3 hours)**Selected Topics in Molecular Genetics**

Examination of current research in a selected topic in molecular genetics. The topic varies from year to year but is drawn from such areas as control of transcription in eukaryotes, DNA replication and control of chromosome structure and function. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4283 (3 hours)**Selected Topics in Molecular Cell Biology**

Emphasis on examination of current research in a selected topic in molecular cell biology. The topic varies from semester to semester but is drawn from such areas as cell-cell signaling,

protein targeting and transport and specialized cell physiologies. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4333 (3 hours)**Experimental Design**

Exposure to the three elements of biological research: understanding the questions asked, the theoretical models used to mimic the system, and the statistical processes used to analyze the data obtained. A “hands-on” course where students are actively involved in these processes during class. Basic mathematics skills required, including algebra. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4343 (3 hours)**Advanced Molecular Biology**

Extends the basics of molecular biology from BIOL 1703, including DNA structure, chromosome structure, regulation of transcription, and translation. Examines the Central Dogma of Biology (DNA to RNA to protein) using lecture, reading and interpretation of primary literature. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4383, 4384 (3-4 hours)**Selected Topics in Biological Science**

Emphasis on examination of current research in selected topic in the biological sciences. The topic varies depending on the interest and expertise of the instructor. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4464 (4 hours)**Plant Physiology**

Physical, biochemical, and developmental processes of higher plants including use of plants in biotechnology. Lecture three hours per week, laboratory four hours per week. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4473 (3 hours)**Advanced Cell Biology**

Explores cell biology, expanding on material from BIOL 1703. Topics encompass the organization and function of cellular structures and organelles. Combines both lectures and discussion/paper presentations. Prerequisites: BIOL 1603, 1611, 1703, 1711.

4603, 4604 (3-4 hours)**Selected Topics in Invertebrate Zoology**

Lecture or lecture/lab course emphasizing specific biological topics as they relate to invertebrates. Topics and taxa vary from semester to semester, but are drawn from field ecology, evolution, behavior, systematics and physiology of insects, crustaceans, mollusks, and others. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4613, 4614 (3-4 hours)**Selected Topics in Vertebrate Zoology**

Lecture or lecture/lab course emphasizing specific biological topics as they relate to vertebrates. Topics and taxa vary from semester to semester, but are drawn from field ecology, evolution, behavior, systematics and physiology of fish, reptiles, birds and mammals. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124.

4623 (3 hours)**Medical Botany**

Integrated study of medicinal, psychoactive, and poisonous plants, their physiologically active constituents, and their role in historical and modern medicine. Emphasis on the impact that plants have on the health of humans. Prerequisites: BIOL 1603, 1611, 1703, 1711, 2124, CHEM 3013.

4643 (3 hours)**Bioinformatics**

Introduction to computational methodologies and concepts in bioinformatics. Topics: introductory molecular genetics, sequence alignment, biological databases, microarray

analysis, genome-wide association studies, structural informatics, immunoinformatics, and neuroinformatics. Prerequisite: Permission of instructor. Same as CS 4643.

4933 (3 hours)**Senior Research in Biological Science I**

Qualified seniors investigate research problems in areas of faculty interest and competence, gaining experience in organization and execution of a research project. Requirements include attending a weekly seminar, submission of research results in thesis form, and oral examination by faculty committee. Normally taken with BIOL 4943 in two consecutive semesters (fall-spring) for a total of 6 hours credit. Prerequisites: Permission of instructor with whom work is to be done and faculty approval.

4943 (3 hours)**Senior Research in Biological Science II**

Qualified seniors investigate research problems in areas of faculty interest and competence, gaining experience in organization and execution of a research project. Requirements include attending a weekly seminar, submission of research results in thesis form, and oral examination by faculty committee. Normally taken with BIOL 4933 in two consecutive semesters (fall-spring) for a total of 6 hours credit. Prerequisites: BIOL 4933 and permission of instructor with whom work is to be done and faculty approval.

4991, 4992, 4993 (1-3 hours)**Independent Research**

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5173 (3 hours)**Environmental Physiology**

Physiological responses of plants and animals to environmental stimuli and stresses.

Prerequisite: A course in plant or animal physiology.

5253 (3 hours)**Seminar in Organismic/Environmental Biology**

Selected topics covering organismic, environmental, and evolutionary biology.

Topics vary.

5263 (3 hours)**Seminar in Cell/Molecular Biology**

Selected topics in cell and molecular biology.

Topics vary.

5863 (3 hours)**Selected Topics in Biology**

Lecture course that focuses on different topics each semester to meet the varying interests of graduate students. Topics range from environmental and evolutionary biology to molecular and cellular biology.

Chemical Engineering

Chair

Geoffrey L. Price

Professors

Francis S. Manning

Geoffrey L. Price

Sujeet Sheno

Kerry L. Sublette

Keith D. Wisecarver

Associate Professors

Selen Cremaschi

Daniel W. Crunkleton

Laura P. Ford

Tyler W. Johannes

Applied Associate Professor

Christi Patton Luks

Assistant Professor

Hema Ramsurn

The mission of the Department of Chemical Engineering is to provide a modern, high-quality educational experience for all students in order to graduate chemical engineers who are technically competent, creative, literate, and socially aware. The B.S. degree program in chemical engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. Our educational objectives are to provide a foundation for successful chemical engineering careers in the petroleum, natural gas, chemicals, alternative energy, environmental, materials, or biotechnology industries, and for graduate studies in chemical engineering or related fields such as medicine, law, and business administration.

The Department of Chemical Engineering offers a curriculum leading to the traditional Bachelor of Science in Chemical Engineering (B.S.Ch.E.) degree. A 4/1 program leading to both a B.S.Ch.E. degree and Master of Engineering in Chemical Engineering (M.Ch.E.) degree in five years from the high school diploma is also available for highly qualified students. A co-op program, where students work in an approved industrial employment setting for up to three semesters during their B.S. degree, is optional. Students are responsible for finding employers for the co-op program and obtaining approval.

Students, in conjunction with their advisors, may choose elective courses that form a cohesive area of specialization within chemical engineering. Current options include petroleum refining, materials, pre-med, business, and environmental engineering. Qualified students may also pursue undergraduate research culminating in a senior research project. Students who have been admitted to the University's Honors Program may also participate in undergraduate research in chemical engineering. Exceptionally well-qualified students, with their advisor's approval, may make additional substitutions in the curriculum to allow further specialization in their selected areas of interest. Students interested in the 4/1 B.S.Ch.E./M.Ch.E. program are generally admitted to the program at the end of their junior year of study toward the B.S.Ch.E. degree. Applicants to the 4/1 program must have completed 96 hours of coursework toward the B.S. degree, completed CHE 3084 and all prerequisites of CHE 3084, and have a GPA of 3.5 or higher. A typical schedule for the senior and final years for a student in the 4/1 program may be obtained at www.che.utulsa.edu by following the link to "Graduate Program" or by consulting The University of Tulsa *Graduate Bulletin*.

Bachelor of Science in Chemical Engineering (B.S.Ch.E.) Requirements

Mathematical Sciences.....	17
MATH 2014, 2024, and 2073, Calculus I, II, and III	
MATH 3073, Differential Equations	
Math Elective (MATH 4123, 4133, 4143, 4213 <i>or</i> 4503; <i>or</i> CS 4153; <i>or</i> STAT 4813)	
Physical Sciences	31
CHEM 1013 and 1011, General Chemistry I and Lab	
CHEM 1023 and 1021, General Chemistry II and Lab	
CHEM 3013 and 3011, Organic Chemistry I and Lab	
Advanced Chemistry Electives (8 hours)*	
PHYS 2053 and 2051, General Physics I and Lab	
PHYS 2063 and 2061, General Physics II and Lab	
Advanced Technical Elective (3 hours)**	
Engineering Science.....	21
EE 2003, Electric Circuit Analysis	
ES 2013, Statics <i>or</i> ES 3083, Engineering Economics	
ES 3003, Introductory Fluid Mechanics	
ES 3053, Thermodynamics	
ES 3073, Heat Transfer	
Advanced Technical Elective (3 hours)**	
Advanced Engineering Elective (3 hours)**	
Chemical Engineering.....	35
CHE 1001, Introduction to Chemical Engineering	
CHE 1013, Chemical Engineering Problem Solving	
CHE 2003, Principles of Chemical Engineering	
CHE 3063, Equilibrium Thermodynamics	
CHE 3084, Mass Transfer	
CHE 4003, Chemical Engineering Lab I	
CHE 4013, Chemical Engineering Lab II	
CHE 4063, Chemical Reactor Design	
CHE 4083, Chemical Engineering Plant Design	
CHE 4103, Process Component Design	
CHE 4113, Process Control	
CHE 4123, Health, Safety and Environment in Chemical Processes	
Elective**	3
Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions [†]	
Humanities and Social Sciences Electives (18 hours). Selections limited to courses that qualify as humanities or social science electives as defined by ABET/AIChE accreditation criteria and the Tulsa curriculum. These courses must demonstrate depth of study in at least one area rather than be simply a series of introductory courses.	
Total Hours	131

*Two course sets (8 hours) to be selected from:

CHEM 3023 and 3021, Organic Chemistry II and Lab

CHEM 4023 and 4021, Physical Chemistry II and Lab

CHEM 4043, Inorganic Chemistry and CHEM 4101, Inorganic Synthesis and Characterization

CHEM 4083 and 4081, Analytical Chemistry I and Lab

CHEM 4133 and 4131, Biochemistry I and Lab

**These courses must form a cohesive area of specialization, must be approved by the advisor, and must meet ABET accreditation criteria.

†Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

For calculating grade point averages, major courses shall be: ES 3003, 3053, and 3073, and all chemical engineering courses. To graduate, a chemical engineering student must earn a grade point average of 2.0 or higher in the major and overall. Foundation courses in chemical engineering include MATH 2014, MATH 2024, CHEM 1013, CHEM 1023, and PHYS 2053. Refer to the table on page 360 of this *Bulletin* for specific GPA requirements.

Chemical Engineering (CHE)

1001 (1 hour)

Introduction to Chemical Engineering

Overview of the chemical engineering curriculum, professionalism, career opportunities, and issues of safety and the environment. Introduction to chemical engineering calculations; units, dimensions, and conversion factors.

1013 (3 hours)

Chemical Engineering Problem Solving

Problem-solving strategies, emphasizing the use of personal computers. Introduction to chemical engineering design problems, including economic analysis and solution by numerical techniques. Prerequisite: CHE 1001 or permission of instructor. Corequisite: MATH 2014.

1024 (4 hours) Block 3

Ecosystem Damage and Recovery

Investigation of the recovery of a grasslands soil ecosystem (in the Tallgrass Prairie Preserve) following a spill of crude oil and/or brine. Discipline-based teams perform sampling, preserve and analyze samples, interpret data and present data and interpretations to other teams. Soil chemistry, soil microbiology, and plant systems are investigated.

1123 (3 hours) Block 3

Introduction to Indoor Air Quality

Course designed to explore the fundamental concepts of air quality in the indoor environment. General topics of contaminants, sources, moisture, bioaerosols, investigation methods, prevention and control options are included in the course. Public policy related to poor indoor air quality is also included. Same as BIOL 1123.

2003 (3 hours)

Principles of Chemical Engineering

Stoichiometry, material and energy balances. Introduction to practical engineering problems, including computer methods. Prerequisites: CHE 1001, 1013, and CHEM 1023. Corequisites: MATH 2024, ES 3053.

3063 (3 hours)

Equilibrium Thermodynamics

Application of equilibrium thermodynamics to chemical engineering systems with emphasis on non-ideal behavior in phase equilibria, fluid properties, and reaction equilibria. Prerequisites: ES 3053, CHE 2003.

3084 (4 hours)**Mass Transfer**

Diffusion, convective and interfacial mass transfer, and the application to continuous contact operations. Design of equilibrium-stage separation processes including distillation, absorption, extraction, and humidification. Introduction to the use of process simulators. Prerequisites: CHE 2003, 3063, ES 3073.

4003 (3 hours)**Chemical Engineering Lab I**

Experimental verification of the principles of fluid flow, heat transfer, and engineering thermodynamics. Emphasis on laboratory safety. Oral and written reports. Prerequisites: ES 3003, ES 3073, and CHE 4113, or permission of instruction.

4013 (3 hours)**Chemical Engineering Lab II**

Experimental verification of mass transfer, chemical reaction rate principles, and process control. Emphasis on safety. Oral and written reports. Prerequisite: CHE 4063. Corequisite: CHE 4113.

4023 (3 hours)**Natural Gas Plant Design**

The application of chemical engineering and economic principles to the design of natural gas plant equipment; includes use of state-of-the-art simulation packages. Prerequisite: ENGL 3003 and permission of instructor.

4063 (3 hours)**Chemical Reactor Design**

Application of the rates of homogeneous and heterogeneous reactions to the design and the engineering evaluation of chemical reactors. Corequisite: CHE 3084.

4083 (3 hours)**Chemical Engineering Plant Design**

Design of chemical and petrochemical plants and process equipment. Evaluation of the economic, safety, health, and environmental aspects of a proposed project. Use of spreadsheets and state-of-the-art process simulators. Oral and written reports. Prerequisites: ENGL 3003; CHE 4063, 4103.

4103 (3 hours)**Process Component Design**

Open-ended problems in economic design of chemical process components. Economic

aspects of engineering, including evaluating alternative courses of action, depreciation, replacement analysis, and process optimization. Lecture 3 hours per week, laboratory 3 hours per week. Prerequisite: CHE 3084.

4113 (3 hours)**Process Control**

Principles of the design of automatic control loops for chemical processes including feed-forward, cascade, ratio and multivariable process control. Design of computer control systems. Emphasis on safety and P&ID diagrams. Prerequisites: CHE 2003 and MATH 3073. Corequisite: CHE 3084.

4123 (3 hours)**Health, Safety, and Environment in Chemical Processes**

Technical fundamentals of chemical process safety including toxicology and industrial hygiene, vapor and liquid releases and dispersion modeling, flammability characterization, fire and explosion prevention, relief and explosion venting, hazard identification and risk assessment, spill response and remediation. Prerequisite: Senior standing in chemical engineering or permission of instructor.

4133 (3 hours)**Industrial Catalysis**

Heterogeneous catalysis from a practical perspective. Properties and manufacture of catalytic materials, industrially important catalytic reactions, and design of catalytic reactors. Prerequisite: CHE 4063.

4153 (3 hours)**Risk Management and Optimization in the Chemical Process Industry**

Introduction to modeling approaches and computational solution methods for linear and nonlinear optimization problems with and without constraints and the application of these approaches for the solution of problems in chemical process industry. Application of quantitative decision making tools in design and operation of chemical process industry. Prerequisites: MATH 2073, CHE 2003 and senior standing, or permission of the instructor.

4163 (3 hours)**Environmental Engineering**

Pollution control and waste management. Municipal and industrial water and waste water treatment. Ground water protection and remediation. Air pollution sources and remediation. Solid waste management. Hazardous waste management and treatment. Environmental law and regulations. Prerequisite: Senior standing or permission of instructor.

4183 (3 hours)**Petroleum Refinery Design**

The application of chemical engineering principles to the design of petroleum refinery equipment, including crude fractionators, heat exchangers, and fired heaters. Computer simulation is emphasized. Prerequisites: ENGL 3003 and permission of instructor.

4193 (3 hours)**Polymer Engineering**

Basic principles of science and engineering applied to polymer technology. Topics include polymer synthesis reactor engineering, structure and properties of polymers, rheology and mechanical properties, polymer processing

and technology. Prerequisite: Permission of instructor.

4863 (3 hours)**Special Topics in Chemical Engineering****4963 (3 hours)****Senior Thesis**

Continuation of CHE 4983, culminating in a bachelor's thesis. Prerequisite: CHE 4983.

4973 (3 hours)**The Profession of Chemical Engineering**

A review of fundamental principles of chemical engineering, intended to prepare the student for professional registration. Prerequisite: Permission of instructor.

4981, 4982, 4983 (1-3 hours)**Undergraduate Research**

Individual research projects under the direction of a faculty member. Prerequisite: Permission of instructor.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Independent or group study on special topics. Prerequisite: Permission of instructor.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5003 (3 hours)**Fluid Mechanics**

Motion of ideal, Newtonian, and non-Newtonian fluids. Continuity and Navier-Stokes equations. Turbulence and boundary-layer theories. Flow through conduits. Prerequisite: Permission of instructor.

5013 (3 hours)**Petroleum Microbiology**

Microbiology of oil and gas production and processing including causes, prevention, and treatment of souring; microbial enhancement of oil recovery; bioremediation of petroleum contaminated soils and groundwater; and risk-based corrective action management of hydrocarbon contaminated groundwater. Prerequisite: Permission of instructor.

5023 (3 hours)**Thermodynamics**

An advanced study of the laws of thermodynamics with special emphasis on application to physical properties and phase transitions. Prerequisite: Permission of instructor.

5033 (3 hours)**Reaction Kinetics**

A study of chemical reaction rates and mechanisms. The design of batch and flow reactors. Catalytic reactions, reactor stability, and non-ideal reactors are emphasized. Prerequisite: Permission of instructor.

5043 (3 hours)**Heat and Mass Transfer**

Basic transport equations as applied to momentum, mass, and heat transfer. Heat and mass transfer coefficients in laminar and turbulent flow and for binary and

multicomponent systems. Boundary layers, models, analogies, multiphase systems, coupled transport processes. Prerequisite: Permission of instructor.

5063 (3 hours)**Phase Equilibrium Thermodynamics**

An Advanced treatment of chemical thermodynamics as related to chemical equilibria, with frequent reference to historical and current literature. Prerequisite: Permission of instructor.

5103 (3 hours)**Catalysis**

Kinetics of catalytic processes; catalytic surfaces and surface phenomena; catalyst preparation and evaluation; catalyst deactivation; heat and mass transfer effects; homogeneous catalysis. Applications to the design of catalytic reactors. Prerequisite: Permission of instructor.

5113 (3 hours)**Biochemical Engineering**

Advanced topics in the design, modeling, and analysis of bioreactors. Bioprocess economics, downstream processing, instrumentation and control, and the nuts-and-bolts of fermenter design. Prerequisite: Permission of instructor.

5123 (3 hours)**Computer-Aided Chemical Process Design**

Introduction to computational tools for the synthesis, analysis, and evaluation of chemical processes. Use of process simulators for the design and operation of chemical plants. Analysis of heat exchanger networks and separation systems. Prerequisite: Permission of instructor.

5173 (3 hours)**Multiphase Reactor Design**

Design of multiphase reactors, including gas-liquid, gas-liquid-solid, and fluidized-bed reactors. Emphasis on multiphase reactor hydrodynamics, heat and mass transfer, and modeling. Prerequisite: Permission of instructor.

5213 (3 hours)**Problem Solving in Chemical Engineering**

Introduction to the Reynolds Transport Theorem. Solving chemical process models with an emphasis on stability and advanced solution methods including Green's functions, series solutions and Bessel functions. Engineering applications of scalar, vector and tensor variables. Prerequisite: Permission of instructor.

Chemistry and Biochemistry

Chair

Dale Teeters

Professors

Robert Howard

William Potter

Gordon Purser

Nicholas Takach

Dale Teeters

Associate Professors

Kenneth Roberts

Robert Sheaff

Assistant Professors

Justin Chalker

Syed Hussaini

Erin Iski

Instructors

Christopher Peebles

Rita Rhodes

Keith Symcox

Affiliated Faculty

Jennifer Holland

All of the curricula in the Department of Chemistry and Biochemistry emphasize laboratory experience and culminate in a senior research project. This active involvement in the field provides experiences and a learning environment designed to stress both the conceptual basis and the experimental nature of the discipline.

The Department offers three options for students interested in the fields of chemistry or biochemistry. The Bachelor of Arts (B.A.) degree provides the opportunity to develop a broad background in chemistry within the framework of a liberal arts education. It is appropriate for students who wish to understand the basics but do not anticipate a career as a research chemist. The Bachelor of Science (B.S.) degrees consist of courses in chemistry, physics, mathematics, writing and humanities. The curricula provide a firm foundation for graduate or advanced professional study. Two degrees are available: a B.S. in chemistry and a B.S. in biochemistry. With appropriate selection of electives, both programs lead to a degree certified by the American Chemical Society. The B.S. in chemistry can be tailored to suit interests in environmental chemistry, advanced materials, applied chemistry, and health (pharmaceutical), as well as traditional chemistry. The B.S. in biochemistry emphasizes chemistry and biology at the molecular level. It is well suited to students who anticipate graduate work in the biochemical or health sciences, or plan to pursue a professional degree program (medical or dental).

Both B.S. degrees can be part of a combined Bachelor of Science/Master of Science (B.S./M.S.) degree program. This is a five-year program that upon completion results in the awarding of B.S. and M.S. degrees in chemistry or biochemistry. Undergraduate students interested in this program must have at least 60 credit hours completed with a grade point average of at least 3.4 in order to apply. Once admitted to the program, students must take three 5000 level chemistry courses as advanced science electives during their junior and senior years. For additional information concerning the combined degrees see The University of Tulsa *Graduate Bulletin*.

Upon completion of the B.A. or B.S. program, students will have developed a set of core skills which they use in approaching the fundamental concepts. These include:

- Conducting meaningful and successful experiments,
- Communicating results,
- Thinking critically,
- Acting ethically, and
- Extending results through lifelong learning.

Minor in Chemistry

Students from other disciplines may minor in chemistry. A minor in chemistry is granted when the student successfully completes General Chemistry I and II with laboratories (CHEM 1011, 1013, 1021 and 1023), Organic Chemistry I and II with laboratories (CHEM 3011, 3013, 3021 and 3023) plus eight credit hours of additional chemistry courses at the 2000 level or above.

Teacher Certification

Students seeking secondary teacher certification in chemistry must also complete requirements for a second major in education described under the School of Urban Education beginning on page 128 of this *Bulletin*. In addition, teacher certification requires proficiency in a second language at the novice level (see page 131).

Bachelor of Science in Chemistry (B.S.C.)

Chemistry	49
CHEM 1013 and 1011, General Chemistry I and Lab	
CHEM 1023 and 1021, General Chemistry II and Lab	
CHEM 1991, Introduction to Chemistry	
CHEM 2101, Sophomore Seminar	
CHEM 3013 and 3011, Organic Chemistry I and Lab	
CHEM 3023 and 3021, Organic Chemistry II and Lab	
CHEM 3032, Molecular Modeling	
CHEM 3033 and 3031, Physical Chemistry I and Lab	
CHEM 3101, Junior Seminar	
CHEM 4023 and 4021, Physical Chemistry II and Lab	
CHEM 4043, Inorganic Chemistry	
CHEM 4083 and 4081, Analytical Chemistry I and Lab	
CHEM 4101, Inorganic Synthesis and Characterization	
CHEM 4133 and 4131, Biochemistry I and Lab	
CHEM 4183 and 4181, Analytical Chemistry II and Lab	
CHEM 4872, Introduction to Research	
CHEM 4962, Senior Project	
Physics and Mathematics.....	19
PHYS 2053 and 2051, General Physics I and Lab	
PHYS 2063 and 2061, General Physics II and Lab	
MATH 2014, 2024 and 2073, Calculus I, II and III	
Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*	
Humanities and Social Science Electives (18 hours of approved courses to meet Tulsa curriculum requirements)	
General Electives.....	18
Approved advanced electives in science, mathematics computer science, and/or engineering courses (chosen in consultation with advisor)	15
Total Hours	125

Bachelor of Science in Biochemistry (B.S.B.)

Chemistry43

 CHEM 1013 and 1011, General Chemistry I and Lab

 CHEM 1023 and 1021, General Chemistry II and Lab

 CHEM 1091, Introduction to Biochemistry

 CHEM 1991, Introduction to Chemistry

 CHEM 2101, Sophomore Seminar

 CHEM 3013 and 3011, Organic Chemistry I and Lab

 CHEM 3023 and 3021, Organic Chemistry II and Lab

 CHEM 3032, Molecular Modeling

 CHEM 3033 and 3031, Physical Chemistry I and Lab

 CHEM 3101, Junior Seminar

 CHEM 4083 and 4081, Analytical Chemistry I and Lab

 CHEM 4133 and 4131, Biochemistry I and Lab

 CHEM 4143, Biochemistry II

 CHEM 4183 and 4181, Analytical Chemistry II and Lab

 CHEM 4871, Senior Seminar I

 CHEM 4961, Senior Seminar II

Biology15

 BIOL 1603 and 1611, Introduction to Organismal and Evolutionary Biology

 BIOL 1703 and 1711, Cell and Molecular Biology and Lab

 Advanced Biology Electives (7 hours chosen in consultation with advisor)

Physics and Mathematics16

 PHYS 2053 and 2051, General Physics I and Lab

 PHYS 2063 and 2061, General Physics II and Lab

 MATH 2014, 2024, Calculus I and II

Humanities, Social Sciences, and English24

 ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*

 Humanities and Social Science electives (18 hours of approved courses to meet Tulsa curriculum requirements)

General Electives18

 Approved advanced electives in science, mathematics, computer science, and/or engineering courses (chosen in consultation with advisor)9

Total Hours125

Bachelor of Arts with Major in Chemistry (B.A.)

Chemistry	35
CHEM 1013 and 1011, General Chemistry I and Lab	
CHEM 1023 and 1021, General Chemistry II and Lab	
CHEM 1991, Introduction to Chemistry	
CHEM 2101, Sophomore Seminar	
CHEM 3013 and 3011, Organic Chemistry I and Lab	
CHEM 3023 and 3021, Organic Chemistry II and Lab	
CHEM 3033 and 3031, Physical Chemistry I and Lab	
CHEM 3101, Junior Seminar	
CHEM 4023 and 4021, Physical Chemistry II and Lab	
CHEM 4083 and 4081, Analytical Chemistry I and Lab	
CHEM 4872, Introduction to Research	
CHEM 4962, Senior Project	
Physics and Mathematics.....	19
PHYS 2053 and 2051, General Physics I and Lab	
PHYS 2063 and 2061, General Physics II and Lab	
MATH 2014, 2024, and 2073, Calculus I, I, and III	
Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*	
Humanities and Social Science electives (18 hours of approved courses to meet Tulsa curriculum requirements. Students must also satisfy a cultural diversity and gender studies requirement of two courses.)	
Foreign Language.....	14
General Electives.....	34
Total Hours	126

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

Chemistry and biochemistry majors must earn a grade point average of 2.0 or higher in the major and overall to graduate.

Chemistry (CHEM)

0123 (3 hours)

Principles of Chemistry

Basic concepts and problem solving techniques necessary in General Chemistry. For students who would benefit from additional preparation for CHEM 1013. Pass-fail only. Prerequisite: Permission of the instructor.

1004 (4 hours) Block 3

Chemistry in Medicine

Fundamental principles of chemistry and biochemistry needed to understand use and development of pharmaceuticals. Experiments in general, organic, and biochemistry associated with medicinal chemistry. Measurements investigating the relationship between structural features of a drug and that drug's effect on the body are discussed. Prerequisites: None, although familiarity with high school algebra is very helpful.

1011 (1 hour) Block 3

General Chemistry I Laboratory

Basic chemical laboratory techniques stressing experimental quantitative analysis. Prerequisite or corequisite: CHEM 1013.

1013 (3 hours) Block 3

General Chemistry I

First course in a two-semester sequence dealing with basic phenomena and principles of chemistry. Topics Include study of the states of matter, basic reaction stoichiometry, atomic and molecular structure and the gas laws. Prerequisite: Three years of high school mathematics.

1021 (1 hour) Block 3

General Chemistry II Laboratory

Continuation of Chemistry 1011, including experimental qualitative analysis. Prerequisites: CHEM 1013, 1011. Prerequisite or corequisite: CHEM 1023.

1023 (3 hours) Block 3

General Chemistry II

Second course in a two semester sequence dealing with basic phenomena and principles of chemistry. Topics include equilibrium, kinetics, acid and base behavior, electrochemistry and bulk properties of solutions. Continues CHEM 1013. Prerequisites: CHEM 1013, CHEM 1011.

1091 (1 hour)

Introduction to Biochemistry

Introduction to biochemistry basics, with an emphasis on identifying biochemical problems that require the understanding to be gained in General Chemistry I and II, Organic Chemistry I and Introductory Biology.

1991 (1 hour)

Introduction to Chemistry

Overview and introduction to the field of chemistry.

2023 (3 hours) Block 3

Chemical Concepts of Energy Technology

Provides the chemical basis behind energy production and energy transformations, especially as they are relevant to social demands. Chemical fuels, the process of oxidation and reduction, batteries, fuel cells, production of hydrogen, the chemical cycles, solar energy collection, pollution related to energy production, and nuclear energy. This class cannot be taken for credit if CHEM 2024 has been completed for credit.

2024 (4 hours) Block 3

Energy Technology for the Future

Provides a chemical background sufficient to understand the issues associated with energy production and the ultimate desire to move toward a renewable energy economy. The laboratory portion of the course focuses on the feasibility of producing wind power in Oklahoma. This class cannot be taken for credit if CHEM 2023 has been completed for credit.

2101 (1 hour)

Sophomore Seminar

Seminars designed to broaden student knowledge of contemporary chemistry.

3011 (1 hour)

Organic Chemistry I Laboratory

Techniques of separation, purification, synthesis and characterization of organic compounds. Prerequisite or corequisite: CHEM 3013.

3013 (3 hours)

Organic Chemistry I

First course in organic chemistry emphasizing bonding, structures, nomenclature, reactions,

and stereochemistry organized around mechanisms. Specific mechanisms of study are SN1, SN2, E1 and E2. Additionally, spectroscopic analysis of organic compounds is studied in some detail. Prerequisites: CHEM 1011, 1013, 1021, 1023.

3021 (1 hour)**Organic Chemistry II Laboratory**

Spectroscopic identification of unknown organic compounds. Syntheses and reactions of classes of compounds studied in CHEM 3023. Prerequisite or corequisite: CHEM 3023.

3023 (3 hours)**Organic Chemistry II**

Continuation of CHEM 3013, with emphasis on electrophilic addition to pi systems, electrophilic aromatic substitutions, and carbonyl chemistry. Additionally, the chemistry of polyfunctional compounds, polymers, and compounds of biological importance are studied. Prerequisites: CHEM 3011 and 3013.

3031 (1 hour)**Physical Chemistry Laboratory I**

Laboratory experiments to accompany CHEM 3033. Experiments related to thermochemistry, thermodynamics, phase behavior polymers, colloids, gas properties, colligative properties, and physical properties are assigned. Prerequisite or corequisite: CHEM 3033.

3032 (2 hours)**Molecular Modeling**

Introduction to molecular modeling on the computer, using commercial software packages. Prerequisites: CHEM 3013.

3033 (3 hours)**Physical Chemistry I**

Quantitative relationships in chemical systems including gas laws, kinetic molecular theory, thermodynamics, and phase behavior. Prerequisites: CHEM 1023, 1021, Prerequisites or corequisites: MATH 2024, PHYS 2063.

3062 (2 hours)**Internship**

On-the-job training in chemistry in a local chemical industry, supervised by an industrial chemist in consultation with the student's academic advisor. Prerequisite: Junior standing.

3101 (1 hour)**Junior Seminar**

Continuation of CHEM 2101. An exposure to current research topics in chemistry and biochemistry and an introduction to the chemical industry. Chemical safety concepts will also be discussed. Prerequisite: Junior standing.

4013 (3 hours)**Organic Spectroscopy**

Theory and practice of 1-D and 2-D multinuclear FT-NMR, FT-IR, UV-Vis and mass spectroscopy. Emphasis on the elucidation of molecular structures by interpretation of spectra. Prerequisites: CHEM 3021, 3023.

4021 (1 hour)**Physical Chemistry Laboratory II**

Laboratory experiments supplementing CHEM 4023, with experiments related to spectroscopy, kinetics, polymers, colloids, electrochemistry, diffusion, and thermochemistry. Prerequisites: CHEM 3031, 3033 or CHE 3063. Prerequisite or corequisite: CHEM 4023.

4023 (3 hours)**Physical Chemistry II**

Modern physical chemistry topics including molecular quantum mechanics, spectroscopy, and kinetics. Emphasis on quantitative understanding of chemical systems. Prerequisites: CHEM 3033 or CHE 3063. Prerequisite or corequisite: MATH 2024, PHYS 2063.

4043 (3 hours)**Inorganic Chemistry**

Introduction to the field of inorganic chemistry at an advanced level. Three lectures per week. Prerequisites: CHEM 3021, 3023, 4021, 4023.

4053 (3 hours)**Environmental Chemistry**

Chemical issues related to aquatic and atmospheric environments. Topics include: acid-base, complexation, and redox equilibria; microbial processes in aquatic systems; atmospheric monitoring; and atmospheric photochemistry. Prerequisite: CHEM 3011 and 3013.

4081 (1 hour)**Analytical Chemistry I Laboratory**

Laboratory experiments supplementing CHEM 4083 with emphasis on methods development, sample handling, and instrument usage.

Prerequisite: CHEM 3013, CHEM 3011.

Corequisite: CHEM 4083.

4083 (3 hours)**Analytical Chemistry I**

Theory and practice of quantitative chemical analysis, advanced chemical equilibria, sensors, chromatography and electrophoresis.

Prerequisites: CHEM 3013, 3011.

4093 (3 hours)**Polymer Chemistry**

Introductory polymer chemistry including theory of polymer molecular weight and molecular weight measurements, step-growth and chain-growth polymerization, polymer structure and physical properties, and viscoelastic properties. Prerequisites: CHEM 3013, CHEM 3033 or CHE 3063, or permission of instructor.

4101 (1 hour)**Inorganic Synthesis and Characterization**

Laboratory course involving synthesis and characterization of inorganic compounds.

Three hours of laboratory per week.

Prerequisite: CHEM 4043.

4131 (1 hour)**Biochemistry I Laboratory**

Introduction to the isolation, identification, and reactions of biological materials. Three hours of laboratory per week. Prerequisite:

CHEM 3023 and 3021. Prerequisite or corequisite: CHEM 4133.

4133 (3 hours)**Biochemistry I**

Introduction to the chemical aspects of biological systems with emphasis on structure and chemistry of carbohydrates, lipids, proteins, and nucleic acids. Prerequisites:

CHEM 3023 and 3021.

4143 (3 hours)**Biochemistry II**

Selected advanced topics in biochemistry with an emphasis on structure and function relationships. Three lectures per week.

Prerequisite: CHEM 4133.

4153 (3 hours)**Standards-Based Chemistry**

Chemical principles underlying elementary and middle school science with emphasis on chemical reactivity, acid and base chemistry, and macromolecules. Prerequisite: EDUC 2103.

4163 (3 hours)**Chemistry of Cooking**

Investigates the practical application of chemical principles in the preparation of food, with an emphasis on the physical, organic and biochemistry of food products and processes.

Prerequisite: CHEM 4133.

4181 (1 hour)**Analytical Chemistry II Laboratory**

Laboratory experiments supplementing CHEM 4183, with emphasis on instrumental techniques. Prerequisite: CHEM 3011.

Corequisite: CHEM 4183.

4183 (3 hours)**Analytical Chemistry II**

Overview of spectroscopic techniques for chemical analysis. Prerequisite: CHEM 3013.

Corequisite: CHEM 4181.

4193 (3 hours)**Chemical Nanotechnology**

Overview of nanotechnology. Topics to be discussed are instrumental methods of importance to the field, the synthesis of the "building blocks" used for nanomaterials, the properties of nanomaterials and the fabrication of nanostructures and devices by nanolithography, self-assembly and other techniques. Prerequisites: CHEM 3033 or CHE 3063 and CHEM 4023, or permission of instructor.

4213 (3 hours)**Medicinal Chemistry**

Introduction to the principles of drug design and the mechanism of drug action from the chemical perspective. Emphasis on the disciplines involved in the drug discovery process. Prerequisite: CHEM 3023.

4323 (3 hours)**Chemical Kinetics**

Detailed presentation of chemical kinetics including methods of measuring reaction rates, the importance of elementary reactions, theories of bimolecular reactions and reaction

dynamics. Both gas phase and solution phase kinetics are presented. Chain reactions, heterogeneous reactions and multi-step mechanisms will be explored. Prerequisite: Consent of instructor.

4863 (3 hours)

Special Topics in Chemistry

Presentation of special interest topics of an advanced nature.

4871 (1 hour)

Senior Seminar I

Continuation of CHEM 3101. An additional exposure to current research topics in chemistry and biochemistry, industrial topics and safety evaluations. Topics also include basic literature search techniques, including information retrieval. Prerequisite: Senior standing.

4872 (2 hours)

Introduction to Research

Development of a senior research project with emphasis on individual lab work under the direction of a faculty member. Work includes basic literature search techniques including

information retrieval. Prerequisite: Senior standing.

4961 (1 hour)

Senior Seminar II

Evaluation of current research topics presented by invited scientists and senior students, culminating in a final report. Prerequisite: CHEM 4871.

4962 (2 hours)

Senior Project

Continuation of senior research project through the procedural to the interpretative phase, culminating in a bachelor's thesis. Prerequisite: CHEM 4872.

4981, 4982, 4983 (1-3 hours)

Undergraduate Research

Individual research projects under the direction of a faculty member. Prerequisite: CHEM 4872 or permission of instructor.

4991, 4992, 4993 (1-3 hours)

Independent Study

Independent or group studies on special topics. Prerequisite: Permission of instructor.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5113 (3 hours)

Physical Organic Chemistry

Emphasis on current theories of reaction mechanisms as they apply to organic reactions. Prerequisite: CHEM 3021, 3023.

5123 (3 hours)

Advanced Physical Chemistry

Theory of chemical bonding, statistical mechanics, and advanced topics in spectroscopy and kinetics. Prerequisites: CHEM 4023, 4021.

5143 (3 hours)

Biochemistry of Cell Fate

Advanced course discussing biochemical principles that underlie biological processes determining mammalian cell fate. Emphasis will be on understanding how different signal transduction mechanisms influence gene expression and protein activity to modulate cell cycle control and cell fate decisions.

Prerequisites: CHEM 4133 or equivalent course and permission of instructor.

5153 (3 hours)

Materials Chemistry

Relationships between chemical bonding and the physicochemical properties of materials including selected high-performance metals, ceramics, and electronic materials. Prerequisite: Consent of instructor.

5163 (3 hours)

Advanced Polymer Chemistry

Advanced topics in kinetics, thermodynamics, and physical properties of polymers. Prerequisites: CHEM 4023 and CHEM 4093.

5193 (3 hours)

Biochemistry of Disease

Advanced course that will take a mechanistic approach to understanding how disruption of basic biological processes like gene expression,

protein activity, and cell fate determination contribute to development of human diseases such as cancer and neurodegeneration.

Prerequisites: CHEM 4133 or equivalent course and permission of instructor.

5213 (3 hours)

Clinical Biochemistry

Coordinates the understanding of the biochemical concepts relating to cellular metabolism and energy, signal transduction, neurotransmitter syntheses/degradation and molecular and human cell biology, nutrition, and tissue and organ metabolism. Students will apply the biochemical principles to maintaining wellness and treating disease states.

5233 (3 hours)

Industrial Experience

Industrial research experience in chemistry or biochemistry in a local chemical industry, supervised by an industrial chemist and the student's research advisor.

5243 (3 hours)

Synthetic Organic Chemistry

Survey of contemporary synthetic methodologies in organic chemistry as illustrated by selected case studies. Strategies to the synthesis of organic compounds and solutions to long-standing problems in synthesis will also be included.

5253 (3 hours)

Analytical Separations

Theory and applications of equilibrium and nonequilibrium separation techniques. Extraction, osmosis, gas chromatography,

column and plane chromatographic techniques, electrophoresis, ultra-centrifugation, and other separation methods.

5263 (3 hours)

Analytical Spectroscopy

Fundamentals of the interactions of electromagnetic radiation with matter, vibrational, electronic, mass spectrometry, scattering-based spectroscopy, instrumentation and signal processing.

5273 (3 hours)

Instruction in the Chemical Sciences

Provides directed experience in instruction in chemistry. Student will assume partial responsibilities for instruction of a class under the direction of a chemistry faculty member. Activities may include lesson preparation, class delivery, testing, and grading.

5283 (3 hours)

Biochemistry of Nutrition

Basic biochemistry of human nutrition and functional foods. Topics include vitamins and minerals and their relation to health and disease. Prerequisite: CHEM 4143 or equivalent.

5863 (3 hours)

Advanced Topics in Chemistry and Biochemistry

Advanced study of an area of research activity. Important concepts, the contribution of modern instrumentation, and relevance of the research will be emphasized. Prerequisite: Consent of instructor.

Tandy School of Computer Science

Chair

Roger L. Wainwright

Professors

J. C. Diaz

Rose F. Gamble

John C. Hale

Dale A. Schoenefeld

Sandip Sen

Sujeet Sheno

Roger L. Wainwright

Associate Professors

Roger Mailler

Mauricio Papa

Assistant Professors

Hani Girgis

Peter Hawrylak

Brett McKinney

Instructor

James Childress

The Tandy School of Computer Science offers degree programs in computer science and information technology. The School also provides computer science and information technology courses to serve the needs of all students at the University.

The Bachelor of Science in Computer Science (B.S.C.S.) degree offers students a strong foundation in computer sciences and mathematics and emphasizes supporting study in the physical sciences. The Bachelor of Science in Information Technology degree offers students a strong foundation in computer sciences together with supporting subjects selected from professional business courses. The B.S. degree program in computer science is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>. Graduates of these programs should be well-prepared to pursue graduate study or industrial and business careers.

The mission of the Tandy School of Computer Science is:

1. To provide the environment and educational experiences that will enable our students to achieve their educational goals and to be successful in the workplace and/or graduate school;
2. To provide our students with the desire and the ability for long-term learning that will be necessary in the changing field of computer science;
3. To provide our students with a basis for ethical behavior, conduct, and responsibility for computer science professionals;
4. To conduct scholarly research in computer science and related fields; and
5. To provide professional service to the University and regional community.

The program educational objectives of the Tandy School of Computer Science are:

1. To meet the expectations of employers of computer scientists, and
2. To enable graduates to pursue professional development, which might include advanced studies, if desired.

Bachelor of Science in Computer Science (B.S.C.S.) Requirements

Computer Science	46
CS 1001, Introduction to Computer Science	
CS 1043, Introduction to Programming and Problem-solving	
CS 2003, Fundamentals of Algorithm and Computer Applications	
CS 2033, Computer Architecture, Organization and Assembler	
CS 2103, Computing Ethics	
CS 2123, Data Structures	
CS 3003, Comparative Programming Languages	
CS 3013, Discrete Mathematics	
CS 3053, Operating Systems	
CS 4013, Compiler Construction	
CS 4163, Database Systems	
CS 4503, Senior Software Projects I	
CS 4513, Senior Software Projects II	
Computer Science Electives (9 hours at 3000 level or above approved by advisor)	
Mathematics	23
MATH 2014, 2024, Calculus I, II	
MATH 4123, Linear Algebra and Matrix Theory	
MATH 4503, Introduction to Numerical Methods	
STAT 4813, Statistical Methods for Scientists and Engineers	
Two Mathematics electives selected from the following list:	
MATH 2073, Calculus III	
MATH 3033, Introduction to Advanced Mathematics	
MATH 3063, Introduction to Number Theory	
MATH 3073, Differential Equations	
MATH 3513, Modern Geometries	
MATH 3553, Modern Algebra	
Physical Sciences and Engineering	19
EE 2163, 2161, Digital Systems Principles and Digital Design Lab	
PHYS 2053, 2051, General Physics I and Lab	
PHYS 2063, 2061, General Physics II and Lab	
Science or Engineering Science Elective (7 hours)	
Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation*	
ENGL 3003, Writing for the Professions*	
Tulsa Curriculum Electives in Blocks I and II (18 hours)	
Electives	12
Selected with approval of the student’s advisor	
Total Hours	124

To become a candidate for a degree in computer science, a student must complete all computer science courses in the curriculum with a grade-point average of at least 2.0, and earn a grade point average of 2.0 or higher overall.

Bachelor of Science in Information Technology (B.S.I.T.) Requirements

Computer Science	52
CS 1001, Introduction to Computer Science	
CS 1043, Introduction to Programming and Problem-solving	
CS 2003, Fundamentals of Algorithms and Computer Applications	
CS 2103, Computing Ethics	
CS 2123, Data Structures	
CS 3003, Comparative Programming Languages	
CS 3013, Discrete Mathematics	
CS 3031, Web Systems Apps	
CS 3043, Human-Web Interfaces	
CS 3353, System Administration	
CS 3363, Data Communications and Networking	
CS 3641, Emerging Information Technology Junior Seminar	
CS 4153, Computer Security	
CS 4163, Database Systems	
CS 4343, Enterprise Integration & Architecture	
CS 4503, Senior Software Projects I	
CS 4513, Senior Software Projects II	
CS 4641, Emerging Information Technology Senior Seminar	
Computer Science Electives (6 hours at 3000 level or above and approved by advisor)	
Business/Economics	18
ACCT 2113, Concepts of Accounting Information I	
ACCT 2123, Concepts of Accounting Information II	
ECON 2013, Principles of Economics I: Macroeconomics (Block II)	
ECON 2023, Principles of Economics II: Microeconomics (Block II)	
MIS elective at the 4000 level or another 3000 level or above computer science course (3 hours)	
Business elective (3 hours, 3000 level or above from ACCT, IB, FIN, MGT, MKTG or QM and approved by advisor)	
Mathematics/Statistics.....	13-14
MATH 1163, Pre-calculus Mathematics	
MATH 2014, Calculus I	
One of the following sequences:	
MATH 2024, Calculus II and STAT 4813, Statistical Methods for Scientists and Engineers, <i>or</i> QM 2013, Statistics I and QM 2023, Statistics II	
General Education Requirements.....	25
ENGL 1033, Exposition and Argumentation*	
ENGL 3003, Writing for the Professions*	
Tulsa Curriculum Electives in Block I (6 hours), Block II (6 hours) and Block III (7 hours)	
Electives (selected with approval of the student’s advisor).....	15-16
Total Hours	124

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

To become a candidate for a degree in information technology, a student must complete all computer science courses in the curriculum with a grade-point average of at least 2.0, and earn a grade point average of 2.0 or higher overall.

Minor in Computer Science

Students from other disciplines may minor in computer science. A minor in computer science consists of 18 credits including CS 1043, CS 2003, CS 2123, and three computer science electives at the 3000 level or higher.

Minor in Computational Sciences

Students from other disciplines may minor in computational sciences consisting of at least 12 credits including CS 2503, MATH 4123, and CS 4533, and either BIOL 4063, BIOL 4093, BIOL 4333, CHEM 3032, CS/BIOL 4643, MATH 4213, ME 4033, ME 4093, CHE 4153 or GPHY 4003.

A certificate program in computer science is also offered, as described on page 459 of this *Bulletin*.

Computer Science (CS)

1001 (1 hour)

Introduction to Computer Science

An overview introduction to the field of computer science.

1043 (3 hours)

Introduction to Programming and Problem-solving

Introduction to a disciplined approach to problem-solving methods and algorithm development using procedural and data abstraction. Coding, debugging, testing, and documentation, using an object-oriented development environment. Programming language is Java.

2003 (3 hours)

Fundamentals of Algorithm and Computer Applications

Continuation of CS 1043. Further development of a disciplined approach to design, coding, and testing of programs written in an object oriented language. Various implementations of abstract data types, including lists, stacks, queues and introduction to trees. Introduction to algorithm analysis, sorting and searching. Prerequisite: CS 1043 or EE 2263.

2033 (3 hours)

Computer Architecture, Organization and Assembler

Introduction to computer hardware organization, instruction execution, and

relationships between higher-level programming languages and machine language. Information flow and control. Instruction and data representation. Assembly language features including control and communication with simple I/O devices and interfaces between assembly programs and high level languages. Survey of modern computer and microprocessor organization. Prerequisite: CS 1043 or permission of instructor.

2103 (3 hours)

Computing Ethics

Introduction to workable ethical frameworks: Kantianism; Relativism; Utilitarianism; Social Contract Theory. Case studies in professional ethics, codes of ethical behavior and responsibility for the professional societies; ethical standards relating to responsible computing, including thrust, privacy ownership, security, safety, honor codes and social responsibility. Sophomore standing.

2123 (3 hours)

Data Structures

Concepts of data structures with analysis, B trees, AVL trees, Splay trees, etc. Recurrence formulas, hashing, and algorithm analysis. Emphasis on various algorithm techniques: backtracking, branch and bound, dynamic programming, simulated annealing, etc. Students will write programs in C++, Python or Java. Prerequisite: CS 2003.

2163 (3 hours)**Computer Design, Organization and Logic**

Boolean algebra, logic gates, combinational network design, flip-flops, sequential networks, synchronous and asynchronous systems.

Prerequisite: CS 2033. Same as EE 2163.

2503 (3 hours)**Scientific Programming**

An introduction to structured programming, object oriented programming, and understanding programming structures.

Computer implementations of models, numerical methods, the analysis of algorithms, and computer visualization tools. Science and engineering related problems are emphasized. An introduction to MATLAB. Course includes lecture and weekly computer laboratory assignments. Corequisite: MATH 2024. Prior programming experience helpful but not required. Students may not receive credit for both CS 1043 and 2503.

3003 (3 hours)**Comparative Programming Languages**

Detailed analysis of the concepts and constructs of modern programming languages. Comparative study of programming languages. Emphasis on imperative languages; discussion of functional, object-oriented and logical programming languages. Prerequisite: CS 2003.

3013 (3 hours)**Discrete Mathematics**

Theory and applications of mathematical models fundamental to analysis of discrete problems. Introduction to set theory, relations and functions. Principles of counting and other combinatorial problems. Introduction to graph theory and its application to algorithm analysis. Formal logic, methods of proof and correctness of algorithms. Recursion and recursive definitions. Prerequisite: MATH 2014 or permission of instructor. Same as MATH 3013.

3023 (3 hours)**Introduction to Game Programming**

Introduction to the design, writing, testing, and documentation of 2D and 3D computer games. Major topics include animation, physics, sound, user control, state maintenance and game artificial intelligence. An emphasis is placed on design and implementation.

Prerequisite: CS 2123.

3031 (1 hour)**Web Systems Apps**

Languages required to develop modern Web systems emphasizing standards. Markup languages, style sheets, and scripting languages for both client and server applications including a basic introduction to database programming. Deployment of Web apps for desktop and mobile devices. Students should be able to develop a basic shopping cart application upon completion. Prerequisite: CS 1043.

3043 (3 hours)**Human-Web Interfaces**

An introduction to Human-Computer Interfaces and programming tools required to build web documents. Topics include human memory and perception, user and task analysis, prototyping and evaluation, content and visual organization, navigation, color and typography guidelines, accessibility, globalization and trust. Current markup languages, web programming style and dynamic web document development, and introduction to CGI's. Prerequisite: CS 3031.

3053 (3 hours)**Operating Systems**

Introduction to operating system design. Views of operating system as a computer resource manager and as coordinator of competing processes. Process synchronization and deadlock avoidance. UNIX as a standard example. Comparison of several current operating systems. Prerequisites: CS 2033, 2123.

3243 (3 hours)**Computer Applications Programming**

Windows programming. Languages of ANSI, Visual C++, Visual Basic, Fortran, and Java studied as programming platforms. Also covers production of Dynamic Link Libraries for use by C++ and Visual Basic programs. Windows NT Operating System used primarily, but Java used for multi-platform applications development. Heavily project/homework oriented. Prerequisite: CS 2003 or permission of instructor.

3353 (3 hours)**System Administration**

Introduction to computer system administration as a practical discipline. Covers

technical, theoretical and ethical aspects of system administration. Topics include Linux, Unix, Microsoft Windows covering installation, configuration, operation and security management. Assignments use one or more scripting languages such as Unix shells, Perl, and Awk. Prerequisite: CS 2003. Corequisite: STAT 4813 or QM 2023.

3363 (3 hours)

Data Communication and Networking

Overview of networking issues. Includes discussion of the physical media used in modern networks and of wireless technology. Networking standards such as Ethernet and fast Ethernet. Networking protocols such as DHCP, TCP/IP, IPX/SPX, SNMP, ICMP, RIP etc. Networking hardware such as routers, bridges, receivers and transceivers. Prerequisite: CS 3053 or 3353.

3641 (1 hour)

Emerging Information Technology Junior Seminar

Newly emerging IT topics not yet addressed at the Junior level in current coursework and practice of skills needed to continue the updating process. Students will prepare oral presentations and be involved in projects illustrating emerging technologies. Prerequisites: CS 3043, 3353, and 3363.

3861, 3862, 3863 (1-3 hours)

Special Topics in Computer Science

4013 (3 hours)

Compiler Construction

Algebraic language syntax and semantic definition. Languages, grammars and parsing algorithms. Semantics processing. Attribute grammars and syntax-directed translation. Declarations processing, type-checking, storage allocation, code generation. Prerequisites: CS 2123, 3003.

4043 (3 hours)

Online Communities

Computation over unreliable and anonymous protocols such as the web. Problems of persistence, concurrency control, transactions, and transactions across multiple servers. The relational database management system as a tool for attacking these problems. Students work in small teams on diverse projects. Prerequisite: CS 3043 or permission of the instructor.

4063 (3 hours)

Computer Architecture

Operating systems strategies and architecture features required to support them. Alternative implementations. Survey of advanced topics in a variety of modern computer and microprocessor architectures. Prerequisite: CS 2033 or permission of instructor.

4123 (3 hours)

Theory of Computing

Finite automata. Regular languages and grammars. Properties of regular languages. Context free languages and grammars. Pushdown automata. Properties of context free languages. Chomsky hierarchy. Turing machines. Limits of algorithmic computation. Prerequisite: CS 3013.

4153 (3 hours)

Computer Security

Introduction to security problems in computing, basic encryption and decryption techniques, secure encryption systems, cryptographic protocols and practices, security in networks and distributed systems, legal and ethical issues in computer security. Prerequisites: CS 3013 and either CS 3053 or 3353.

4163 (3 hours)

Database Systems

Thorough introduction to theory and practice of database systems. Emphasis on theoretical considerations involved in modeling data and designing easy to use, efficient database systems. Also covers practical issues of query languages and optimization, transaction processing, concurrency control and recovery techniques as well as embedding structured queries in high-level language. Prerequisites: CS 2123, 3013.

4213 (3 hours)

Object-Oriented Software

Concepts and techniques of object-oriented software construction are motivated by improving quality, reusability, and extendibility. Classes, assertions, genericity, inheritance, polymorphism, and dynamic binding are illustrated using contemporary environments. Prerequisite: CS 2123 or permission of instructor.

4253 (3 hours)**Artificial Intelligence**

Comprehensive introduction to the principles and techniques of artificial intelligence (AI). Emphasis on scientific and technological motivations for AI. In-depth coverage of agents and environments, search techniques, game playing, knowledge representation, rule-based reasoning, logic, planning, learning, reasoning under uncertainty. Programming in LISP and rule-based languages. Prerequisites: CS 2123, 3013.

4333 (3 hours)**Computer Networks**

Foundations of computer network design: requirements, architecture, and software. Layering and protocols. OSI and Internet architecture. Direct link networks: building blocks, encoding, framing, error detection, reliable transmission and media access control. Prerequisite: CS 3053 or 4323 or permission of instructor.

4343 (3 hours)**Enterprise Integration and Architecture**

Focuses on the integration of information systems in organizations, the process by which different computing systems and software applications are linked together physically or functionally. Examines the strategies and methods for blending a set of interdependent systems into a functioning or unified whole, thereby enabling two or more applications to interact and exchange data seamlessly. Will explore tools and techniques for systems integration as well as proven management practices for integration projects. Prerequisite: CS 2123.

4353 (3 hours)**Parallel Programming**

Discussion of languages and environments for programming parallel processors including program annotations, language extensions, and software tools. Discussion of shared and distributed memory paradigms, and homogeneous and heterogeneous parallel computing. Issues of vector and data parallel computing. Portability and performance evaluation, concepts and tools. Prerequisites: CS 2503 or 3003 and consent of instructor.

4363 (3 hours)**Distributed Computing**

Concepts and architectures for distributed and concurrent computing. Distributed transaction processing, process synchronization and concurrency control. Quality of service, fault tolerance and security. COBRA, DCE and DCOM, middleware. Coordination languages and distributed programming systems; Linda, PVM, JINI. Distributed Operating Systems. Prerequisite: CS 3053.

4453 (3 hours)**Computer Law and Policy**

Legal and political aspects of computers in society. Computer crime, Cyber-terrorism, copyright and internet privacy, access and freedom legislation. Public policy for cryptographic export controls, critical infrastructure protection, and global digital economy development. Prerequisite: CS 2123.

4023 (3 hours)**Critical Infrastructure Protection**

Critical infrastructure protection as defined by the Department of Homeland Security. History, presidential directives, laws and regulations. Overview of the sixteen sectors defined by Presidential Policy Directive 21 (PPD-21). Security issues and risk management. Focus on the energy sector (oil and gas and electric power). Technical components. SCADA networks and process control systems. Relevant protocols and cyber-security tools and solutions. Prerequisite: CS 4153 or permission of instructor.

4503 (3 hours)**Senior Software Projects I**

First of a two-course sequence in software engineering. Formal and semi-formal methods of specification and design will be used to describe the various requirements of a non-trivial software system. Prerequisites: CS 2123, 3013.

4513 (3 hours)**Senior Software Projects II**

Second of two-course sequence in software engineering. Involvement in actual requirements analysis, design, and implementation of a non-trivial software project. Emphasis on social and ethical implications of computing and software development, and on customer and team

relations. Results of projects presented in writing. Oral presentations before staff and students required throughout semester. Prerequisites: CS 4503, senior standing.

4533 (3 hours)**Introduction to Computational Science**

Emphasis on high performance computing science and engineering problems; scientific computing; Matlab Programming; Automatic Differentiation, Splines and Bézier curves and applications to computer graphics; parallel processing, computational solutions of stochastic differential equations. Prerequisites: Either MATH 3073 or 4123, and either CS 2503 or 2003.

4613 (3 hours)**Fundamentals of Computer Graphics**

Introduction to computer graphics software and hardware. Two and three-dimensional object descriptions and transformations, clipping scan conversion, and visible surface computations. Raster and vector organized display systems, hardcopy devices, interactive input devices. Emphasis on design of interactive systems. Prerequisite: CS 2123.

4623 (3 hours)**Evolutionary Computation**

Provides basic knowledge of new methods in computer science inspired by evolutionary processes in nature. Includes: evolutionary computation, fundamentals of genetic algorithms, representations, genetic operators, and selection mechanisms. Theory of genetic algorithms. Schema theory and extensions. Genetic programming, and representation and genetic operators. Applications of evolutionary computation techniques to combinatorial optimization problems. Prerequisites: CS 2123, 3013.

4641 (1 hour)**Emerging Information Technology Senior Seminar**

Newly emerging IT topics not yet addressed at the senior level in current coursework and practice of skills needed to continue the updating process. Students will prepare oral presentations and be involved in projects illustrating emerging technologies. Prerequisites: CS 3641, 4153, 4163, 4343.

4643 (3 hours)**Bioinformatics**

Introduction to computational methodologies and concepts in bioinformatics. Topics: introductory molecular genetics, sequence alignment, biological databases, microarray analysis, genome-wide association studies, structural informatics, immunoinformatics, and neuroinformatics. Prerequisite: Permission of instructor. Same as BIOL 4643.

4653 (3 hours)**Medical Informatics**

Medical informatics technology, models and issues. Introduction to digital architectures and technologies for medical information and health management systems, including electronic health records, decision support systems, medical coding, biomedical devices, XML, and web services. Applications to community medicine and public health. Security, privacy, compliance and ethics issues. Prerequisite: CS 2123 or permission of the instructor.

4753 (3 hours)**Robotics**

Basic theories of robot mechanisms and their implications for engineers involved in the analysis or design of robot manipulators. Kinematics, dynamics, and control aspects of designing robot arms. Spatial descriptions and transformations. Hands-on laboratory experiences using both open-loop and closed-loop robots. Autonomous Mobile Robots. Prerequisites: CS 2003 and MATH 3073 or 4123. Same as EE 4353.

4763 (3 hours)**Robotics Design and Implementation**

Students participate in the design, component construction, assembly and programming of FIRST-class robot applying engineering and project management concepts to produce and deliver a working robot capable of participating in FIRST robotics competitions. Students propose a design incorporating improvements from other robots in the competition. Robot construction changes over time; course may be repeated for up to six credits. Prerequisite: CS 2123 or EE 2163.

4863 (3 hours)**Special Topics**

4971, 4972, 4973 (1-3 hours)**Research and Computer Sciences Literature****4983 (3 hours)****Senior Thesis**

Each student investigates a computer science topic not covered by his or her previous

undergraduate work. Submission of a written thesis and an oral presentation is required.

Prerequisites: Senior standing and departmental approval.

4991, 4992, 4993 (1-3 hours)**Independent Study****Approved Graduate Courses**

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5043 (3 hours)**Information and Text Retrieval**

Basic and advanced techniques for text-based information systems: efficient text indexing; Boolean and vector space retrieval models; evaluation and interface issues; Web search including crawling, link-based algorithms, and Web metadata; text/Web clustering, classification; text mining. Prerequisite: CS 2123 and MATH 4123, or permission of instructor.

5063 (3 hours)**Parallel Architectures**

Advanced treatment of parallel computer architecture covering new technological developments, including details of multiprocessor systems, shared memory, distributed memory, interconnection networks, clusters, and specialized machines. Prerequisite: CS 4063.

5183 (3 hours)**Information System Security Engineering**

Engineering methods for the development of safety and security critical information systems. Secure software design and implementation. Information infrastructure maintenance and reliability. Specification, design and analysis of mission-critical system properties. Certification, accreditation and validation processes. Prerequisite: CS 5443.

5193 (3 hours)**Risk Management for Information Systems**

Risk analysis and threat profiling for mission critical information systems. Adversarial analysis and countermeasure synthesis. Policy development and implementation. Incident handling and response. Prerequisite: CS 5443.

5243 (3 hours)**Computational Linear Algebra**

Computational techniques for the solution of systems of linear and non-linear algebraic equations. Emphasis on the intelligent use of existing software packages. Laboratory exercises using matrix computation environment required. Prerequisite: MATH 4123.

5263 (3 hours)**Scientific Computing**

Provides in-depth presentation of issues central to numerical computing: the effect of finite precision on numerical computation, the theory and application of splines, and the theory and applications of computational differentiation. Prerequisites: CS 4533 or MATH 2024 and CS 2003, or equivalent.

5273 (3 hours)**Human-Computing Interaction**

Overview and introduction to human-computer interaction (HCI). Tools, techniques, and sources of information about HCI and a systematic approach to design. The course increases awareness of good and bad design through observation of existing technology, and teaches the skills of task analysis, and analytic and empirical evaluation methods. Prerequisites: CS 2123, 3003.

5313 (3 hours)**Advanced Artificial Intelligence**

Detailed overview of research issues relevant to computational approaches to understanding and creating intelligent behavior. Includes philosophical foundations, knowledge representation, planning, machine learning, multiagent systems. Students work in groups on final research project. Prerequisite: CS 4253.

5323 (3 hours)**Multi Agent Systems**

A thorough introduction of the research and application of techniques for coordination of multiple, autonomous agents sharing common resources and/or goals. Students will work in groups on a final research project. Prerequisite: CS 4253.

5333 (3 hours)**Machine Learning**

Comprehensive survey of computational mechanisms that allow autonomous agents to acquire knowledge and expertise, improving performance on a given set of tasks from experience. Covers symbolic and sub-symbolic schemes; supervised, reinforcement, and unsupervised learning; single agent and multiagent systems; robot learning; learning information agents; practical applications. Group work on final research project. Prerequisite: CS 4253.

5343 (3 hours)**Intelligent Agents**

Thorough overview of agent based system concepts including analysis of key agent characteristics like autonomy, proactivity, learning, and social responsiveness. Particular emphasis is placed both on recognizing the opportunity and feasibility of developing novel and significant applications of agent based systems well as principled theoretical underpinnings, scientific approaches, mechanisms, and infrastructures necessary to develop such applications. Prerequisite: CS 4253 or equivalent.

5353 (3 hours)**Analysis of Algorithms**

Design and analysis of efficient algorithms. Design techniques including recursion, divide-and-conquer, and dynamic programming. Applications include sorting, searching, dynamic structures, path finding, fast multiplication. Non-deterministic algorithms. Computationally hard problems. NP-completeness. Prerequisites: CS 2123, 3013.

5403 (3 hours)**Secure Electronic Commerce**

Electronic commerce technology, models and issues. Principles and case studies of electronic commerce. Introduction to security architectures for electronic commerce

including digital signatures, certificates, and public key infrastructure (PKI). Legal and national policy electronic commerce issues. Prerequisite: CS 2123 or permission of the instructor.

5433 (3 hours)**Distributed Algorithms**

Components in a distributed system must communicate and cooperate toward the solution of a complex problem. Design and analysis of selected aspects of distributed algorithms governing these components. Topics include concurrency, distributed communication, and failures, Designing real world solutions to problems in distributed computing. Prerequisite: CS 2123.

5443 (3 hours)**Information System Assurance**

Design and analysis methods for high assurance information systems. Safety, reliability and security. Specification of mission-critical system properties. Software and hardware validation, verification and certification. Prerequisite: CS 4153.

5463 (3 hours)**Enterprise Security Management**

Managerial aspects of computer security and risk management for enterprises. Accreditation, procurement, extension and operation principles for secure computing systems. Prerequisite: CS 5443.

5473 (3 hours)**Network Security**

Comprehensive study of current and developing communications systems and networks. Host-based and network-based intrusion detection. Anomaly and misuse detection. Network security appliances including firewalls and access control devices. Topics are covered with all networks in mind: Internet, PSTN, ATM, Frame Relay Networks, etc. Prerequisite: CS 4153.

5483 (3 hours)**Computer and Network Forensics**

Procedures for the identification, preservation and extraction of electronic evidence. Auditing and investigation of network and host intrusions. Forensic tools and resources for systems administrators and information system security officers. Prerequisite: CS 4153.

5493 (3 hours)**Secure System Administration and Certification**

Accepted best practices and guidelines to secure information systems and networks. Detection of abnormal events, intrusion detection, incident handling, response and recovery. Security policies, system configuration, integration, and maintenance. Prerequisite: CS 5443.

5543 (3 hours)**Parallel Languages and Environments**

Overview of language standards for parallel programming. Automatic detection of parallel sections for procedural languages. Discussion of shared memory and message-passing paradigms. Development of tools and

environments for programming homogeneous and heterogeneous parallel processors.

Prerequisite: CS 4353 or permission of instructor.

5553 (3 hours)**Parallel Algorithms**

Design and analysis of parallel algorithms with emphasis on distributed memory parallel computation. Topics include numerical problems, sorting algorithms, matrix operations, graph theory and combinational algorithms. Course open to students from other disciplines with strong mathematics background. Prerequisites: CS 2123 and 3053 or permission of instructor.

Electrical and Computer Engineering

Chair

Kaveh Ashenayi

Professors

Kaveh Ashenayi

Gerald R. Kane

Peter G. LoPresti

Surendra Singh

Heng-Ming Tai

Assistant Professors

Peter Hawrylak

Jinsong Zhang

Applied Assistant Professor

Douglas Jussaume

Senior Instructor

Jeffrey G. Kohlbeck

The Department of Electrical and Computer Engineering offers curricula leading to the Bachelor of Science (B.S.) degrees in Electrical Engineering and in Electrical and Computer Engineering. The curriculum in each degree includes a strong foundation in the electrical, computer, mathematical, and physical sciences. The Electrical Engineering degree has more of an emphasis in the fields related to power, electromagnetics, and control. The Electrical and Computer Engineering degree emphasizes concepts related to electronics and the computer engineering field. The B.S. degree program in electrical engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The mission of the Department of Electrical and Computer Engineering is to provide a modern, high quality educational experience for all of our students. We provide the knowledge and principles on which electrical engineering and computer engineering are founded in order to graduate engineers who are technically competent, creative, articulate, and socially aware. The primary objective for the Department of Electrical and Computer Engineering is to prepare graduates to engage successfully in the practice of electrical engineering and/or computer engineering by obtaining employment or admission to graduate school. Interested individuals are invited to visit www.utulsa.edu/ee for current information regarding our objectives.

Based on both the mission statement and the primary objective of the Department, The objectives of the electrical engineering and the electrical and computer engineering programs are to provide graduates with:

- The knowledge to meet employer needs should they choose a professional career; and
- The knowledge to engage in advanced study should they choose to continue their education.

Bachelor of Science in Electrical Engineering (B.S.E.E.) Requirements

Mathematical Sciences17

 MATH 2014, 2024, 2073, Calculus, I, II, and III

 MATH 3073, Differential Equations

 STAT 4813, Statistical Methods for Scientists and Engineers

Physical Sciences15

 CHEM 1013, 1011, General Chemistry I and Laboratory

 PHYS 2053, 2063, 2073, General Physics I, II, and III

 PHYS 2051, 2061, General Physics Laboratory I and II

Engineering Science16

 EE 2001, Basic Electrical Measurements Laboratory

 EE 2003, Electric Circuit Analysis

 An appropriately chosen mix of thermodynamics, statics, dynamics and electronic properties of materials electives

 ES 3083, Engineering Economics

 EE 2263, Embedded Systems in C *or* CS 1043, Introduction to Programming and Problem-solving, *or* CS 2503, Scientific Programming

Professional Courses.....37

 EE 1001, Introduction to Electrical and Computer Engineering

 EE 1011, Computer Tools for Electrical and Computer Engineers

 EE 2063, Introduction to Computer Organization and Microprocessors

 EE 2163, 2161, Digital Systems Principles and Digital Design Laboratory

 EE 3023, Introduction to Electromagnetics

 EE 3033, Electric Power Systems

 EE 3113, Signals and Linear Systems

 EE 3143, Electronics I

 EE 4043, 4041, Electronics II and Laboratory

 EE 4053, Classical Control Theory and Applications

 EE 4073, Information and Communication Systems

 EE 4103, 4203, Electrical and Computer Engineering Design Project I and II

Senior Technical Electives12

 Choose four from the list below or, with departmental approval, three from the list below and an advanced mathematics, computer science, or engineering course.

 EE 4123, Radio Frequency Engineering

 EE 4133, Power Systems Analysis

 EE 4143, VLSI Design

 EE 4153, Modern Control Systems

 EE 4163, Computer Hardware Techniques

 EE 4173, Computer Networks

 EE 4213, Digital Signal Processing

 EE 4223, Antennas

 EE 4233, Alternative Energy Sources

 EE 4243, Applied Electronics

 EE 4253, Digital Control Systems

 EE 4263, Microprocessors in Digital Design

 EE 4273, Optical Networking

 EE 4323, Electro-optics

EE 4353/CS 4753, Robotics	
EE 4413, Introduction to Neural Networks	
EE 4523, Radio Frequency Identification (RFID) Technology and Applications	
Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation and ENGL 3003, Writing for the Professions*	
Humanities and Social Sciences Electives (18 hours). Selections are limited to courses that qualify as humanities or social sciences electives as defined by ABET accreditation and the Tulsa curriculum. These courses must demonstrate depth of study in at least one area rather than be simply a series of introductory courses (i.e., two of the courses must have the same departmental designation).	
General Elective	3
Selection of a general elective is restricted to courses outside the Department of Electrical and Computer Engineering. The student is free to choose a course consistent with his or her career goals subject to departmental approval. It is strongly suggested that this elective be chosen to enhance the student’s oral and written communication skills. Students choosing to take a foreign language will use this elective plus one of the humanities and social science electives from the previous section. Foreign language study may require up to two additional credit hours. Degree credit will not be given for a single introductory semester of a foreign language.	
Total Hours	124

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

A student must complete each of the electrical engineering courses listed under the curriculum with at least a grade of “C” and an overall GPA of at least 2.0 in order to receive a degree in electrical engineering.

**Bachelor of Science in Electrical and Computer Engineering
(B.S.E.C.E.) Requirements**

Mathematical Sciences	20
MATH 2014, 2024, 2073, Calculus, I, II, and III	
MATH/CS 3013, Discrete Mathematics	
MATH 3073, Differential Equations	
STAT 4813, Statistical Methods for Scientists and Engineers	
Physical Sciences	15
CHEM 1013, 1011, General Chemistry I and Laboratory	
PHYS 2053, 2063, 2073, General Physics I, II, and III	
PHYS 2051, 2061, General Physics Laboratory I and II	
Engineering Science	15
EE 1001, Introduction to Electrical and Computer Engineering	
EE 1011, Computer Tools for Electrical and Computer Engineers	
EE 2001, Basic Electrical Measurements Laboratory	
EE 2003, Electric Circuit Analysis	
ES 3063, Solid State Electronic Devices	
ES 3083, Engineering Economics	
CS 2123, Data Structures	
Professional Courses.....	44
EE 2063, Introduction to Computer Organization and Microprocessors	
EE 2163, 2161, Digital Systems Principles and Digital Design Laboratory	
EE 2263, Embedded Systems in C	
EE 3023, Introduction to Electromagnetics	
EE 3033, Electric Power Systems	
EE 3113, Signals and Linear Systems	
EE 3143, Electronics I	
EE 4043, 4041, Electronics II and Laboratory	
EE 4053, Classical Control Theory and Applications	
EE 4073, Information and Communication Systems	
EE 4103, 4203, Electrical and Computer Engineering Design Project I and II	
CS 2003, Fundamentals of Algorithms and Computer Applications	
CS 3053, Operating Systems	
Senior Technical Electives	12
Choose one of the following three courses:	
CS 4333, Computer Networks	
EE 4173, Computer Networks	
EE 4273, Optical Networking	
Choose one of the following three courses:	
EE 4143, VLSI Design	
EE 4163, Computer Hardware Techniques	
EE 4263, Microprocessors in Digital Design	

Choose two courses (6 hours) from the following: the list below, the 4000 level EE courses listed above and not used to satisfy any of the previously listed requirements, or any 4000 level computer science courses not used to satisfy any of the previously listed requirements.

- EE 4123, Radio Frequency Engineering
- EE 4133, Power Systems Analysis
- EE 4153, Modern Control Systems
- EE 4213, Digital Signal Processing
- EE 4223, Antennas
- EE 4233, Alternative Energy Sources
- EE 4243, Applied Electronics
- EE 4253, Digital Control Systems
- EE 4263, Microprocessors in Digital Design
- EE 4323, Electro-optics
- EE 4353/CS 4753, Robotics
- EE 4413, Introduction to Neural Networks
- EE 4523, Radio Frequency Identification (RFID) Technology and Applications

Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation and ENGL 3003, Writing for the Professions*	

Humanities and Social Sciences Electives (18 hours). Selections are limited to courses that qualify as humanities or social sciences electives as defined by ABET accreditation and the Tulsa curriculum. These courses must demonstrate depth of study in at least one area rather than be simply a series of introductory courses (i.e., two of the courses must have the same departmental designation).

Total Hours	130
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*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

A student must complete each of the electrical engineering and computer science courses listed under the curriculum with at least a grade of “C” and an overall GPA of at least 2.0 in order to receive a degree in electrical and computer engineering.

Electrical Engineering (EE)

1001 (1 hour)

Introduction to Electrical and Computer Engineering

Laboratory and field studies of various electrical engineering practices such as telecommunications, power generation and delivery, computer networks, and industrial plant control and manufacturing.

1011 (1 hour)

Computer Tools for Electrical and Computer Engineers

Practical experience in the use of computer tools for electrical engineering including word processing, spreadsheets, schematic capture, circuit and math analysis, computer-aided design and project planning.

2001 (1 hour)

Basic Electrical Measurements Laboratory

Lecture and laboratory exercises in the principles and use of electrical instruments. Corequisite: EE 2003.

2003 (3 hours)

Electric Circuit Analysis

Electrical circuit models. Natural and forced response due to DC, AC, and general excitation. Matrix formulation and solution of multinode circuits using the Laplace transform. Corequisites: MATH 3073, PHYS 2063.

2063 (3 hours)

Introduction to Computer Organization and Microprocessors

Components of microprocessor based computer systems, flow of information and control. Instruction and data representation, assembly language programming, microprocessor interfacing.

2161 (1 hour)

Digital Design Lab

A digital logic laboratory to accompany EE 2163. Corequisite: EE 2163.

2163 (3 hours)

Digital Systems Principles

Boolean algebra, logic gates, combinational network design, flip-flops, sequential networks, synchronous and asynchronous systems. Prerequisite: EE 2063 or sophomore standing. Same as CS 2163.

2263 (3 hours)

Embedded Systems in C

Coding, debugging, and documentation using "C" to develop microcontroller based systems. Prerequisite: EE 2063.

3023 (3 hours)

Introduction to Electromagnetics

Maxwell's equations and fundamental concepts in electromagnetism in differential and integral vector form. Wave propagation in free space, material media, and on transmission lines. Basic concepts of static and quasistatic electric and magnetic fields, and magnetic circuits. Prerequisite: EE 2003.

3033 (3 hours)

Electric Power Systems

Electromechanical energy conversion, direct and alternating current machinery, basic power system concepts, performance evaluation. Prerequisite: EE 2003.

3113 (3 hours)

Signals and Linear Systems

Linear discrete-time and continuous-time systems models. Convolution, impulse response functions, frequency response. State variable methods. Fourier and Z-transform techniques. Prerequisite: EE 2003.

3143 (3 hours)

Electronics I

Electronic device principles, P-N junction diodes, transistors, fabrication techniques. Bipolar and FET transistor biasing. Small signal parametric models for the bipolar and FET transistors. Prerequisite: EE 2003.

4041 (1 hour)

Electronics Laboratory

An electronics circuits design laboratory to accompany EE 4043. Prerequisite: EE 3143. Corequisite: EE 4043.

4043 (3 hours)

Electronics II

Direct coupled amplifiers, feedback principles, operational amplifiers, large signal models, power amplifiers, tuned amplifiers, and oscillators. Prerequisite: EE 3143. Corequisite: EE 4041.

4053 (3 hours)**Classical Control Theory and Applications**

The design and analysis of feedback control systems, system stability, root locus, Nyquist and Bode methods. Design of system compensation. Prerequisite: EE 3113.

4073 (3 hours)**Information and Communication Systems**

Information, its meaning and quantification. Modulation and transmission of information, classification and modeling of noise sources and their effects in communication systems. Introduction to the signal extraction problem. Prerequisites: EE 3113 and STAT 4813.

4103 (3 hours)**Electrical Engineering and Computer Design Project I**

Students are assigned to groups and compete to design a product. Group dynamics and technical presentations are emphasized. A working prototype is produced. Prerequisites: Senior standing in electrical engineering and permission of department chair. Senior standing in electrical engineering includes completion of EE 4043 and 2163.

4123 (3 hours)**Radio Frequency Engineering**

Introduction to radio frequency engineering. Basics behind the analysis and design of radio frequency components. Transmission line and microwave network analysis. Use of the Smith Chart and signal flow graphs. Impedance matching, filters, and mixer. Prerequisite: EE 3023 or PHYS 4023.

4133 (3 hours)**Power Systems Analysis**

Principles of balanced and unbalanced poly-phase a.c. power systems, load flow, component models and parameters. Prerequisite: EE 3033.

4143 (3 hours)**VLSI Design**

Hierarchical design methodology for very large scale integration of NMOS and CMOS. Physics of MOS devices. Design rules checking computer-aided design tools. Prerequisites: EE 2163, EE 4043.

4153 (3 hours)**Modern Control Systems**

Analysis and design of analog and digital control systems. Nonlinear and discrete data systems, concepts of controllability and observability, state variable feedback compensation. Introduction to parameter identification, adaptive and optimal control systems. Prerequisite: EE 4053.

4163 (3 hours)**Computer Hardware Techniques**

Use of hardware description language (HDL) to implement hardware using a field programmable gate array (FPGA). Hardware techniques employed in various computer architectures, including microprocessors, supercomputers, exotic and special purpose computers, will be implemented using the FPGA. Instruction set design, instruction and data flow will be covered. Prerequisites: EE 2163 and 2161.

4173 (3 hours)**Computer Networks**

An introduction to the basic principles of modern network communications. The OSI model from the physical layer to the application layer with emphasis on engineering limitation and solution. Transmission media, error control, channel allocation, congestion, addressing, routing, transport protocols, performance issues, security and modern network resources. Prerequisite: EE 4073.

4203 (3 hours)**Electrical and Computer Engineering Design Project II**

Student selects a project or topic for research and is assigned to a faculty advisor. An engineering report describing the project and proposing a plan of action must be submitted. The plan of action is executed and a final engineering report is submitted. The project may be a continuation of EE 4103. Prerequisites: Senior standing in electrical engineering and permission of department chair. Senior standing includes completion of EE 4043 and 2163.

4213 (3 hours)**Digital Signal Processing**

Introduction to digital signal processing and digital filtering. Topics include sampled data systems modeling and analysis, and digital filter

design. Course material is applicable to a wide range of data processing applications.

Prerequisite: EE 3113 or permission of instructor.

4223 (3 hours)

Antennas

Maxwell's Equations. Ideal versus practical dipoles. Radiation patterns. Impedance of antennas. Arrays. Yagi Uda antennas. Aperture antennas. Pattern multiplication techniques. Image theory. Feeding techniques. Introduction to pattern synthesis. Scanning. Prerequisite: EE 3023.

4233 (3 hours)

Alternative Energy Sources

Provide students with the basic knowledge and tools necessary for an engineering approach to the study of alternate and renewable energy systems. This course will introduce students to different sources of renewable energy and the way they work. We will study the different approaches to utilizing renewable energy resources. Different systems needed for utilizing these resources such as inverters and transformers will also be studied. Prerequisite: Senior standing in electrical engineering or permission of instructor.

4243 (3 hours)

Applied Electronics

Principles of operation and design of application specific electronic circuits, including comparator, differential line driver, class E amplifier, regulator, instrumentation and communication circuits. Prerequisite: EE 4043 or permission of instructor.

4253 (3 hours)

Digital Control Systems

The use of digital computers in the real time control of dynamic systems such as servo mechanisms, chemical processes, aircraft, etc. Topics covered include sampling, z-transforms, digital filters, computer-aided design, design using transform techniques, design using state variable techniques, quantization, and system identification. Prerequisite: EE 4053 or permission of instructor.

4263 (3 hours)

Microprocessors in Digital Design

Detailed survey of major microprocessor families with emphasis on architectural

development of the processor family; the microcomputer system (the microprocessor and its support chips); application of microprocessor systems to realistic engineering problems; the microprocessor as a system component; single chip complete systems; and large, word-length, multi-chip systems. Prerequisites: EE 2163 and either EE 2063 or CS 2033.

4273 (3 hours)

Optical Networking

Basic level of proficiency in the design of optical networks. Capabilities and limitations of common network components, knowledge of common protocols to network design choices. Concepts that impact the quality of service requirements of a network. Develops basic skills with telecommunication equipment through series of laboratories. Prerequisite: EE 3113. Concurrent enrollment in EE 4073 is strongly suggested.

4323 (3 hours)

Electro-optics

Fourier optics. White light processing. Integrated optics. Optoelectronic devices. Modulation and detection. Coherence. Holography, photographic techniques. Low light and infrared applications. System design and tradeoffs. Prerequisite: EE 3023. Corequisite: EE 4073.

4353 (3 hours)

Robotics

Basic theories of robot mechanisms and their implications for engineers involved in analysis or design of robot manipulators. Kinematics, dynamics, and control aspects of designing robot arms. Spatial descriptions and transformations. Laboratory using both open-loop and closed-loop robots. Corequisite: EE 4053. Same as CS 4753.

4413 (3 hours)

Introduction to Neural Networks

An introduction to artificial neural models, learning algorithms, implementation, and applications. Associative memories, supervised and reinforcement learning, Adaptive Resonance Theory. Prerequisites: EE 2003, MATH 3073.

4523 (3 hours)**Radio Frequency Identification (RFID) Technology and Applications**

Introduction to radio frequency identification (RFID) systems. Basics behind RFID, attachment of sensors to RFID tags, interrogator design, RFID communication protocols, security, privacy, RFID standards, and methods to store data on RFID tags. Passive, battery assisted passive, and active RFID systems. Applications of RFID in areas

such as healthcare, supply chain management, and business intelligence. Prerequisites: EE 2163, 4043, and 3023, or permission of instructor.

4861, 4862, 4863 (1 - 3 hours)**Special Topics****4991, 4992, 4993 (1 - 3 hours)****Independent Study**

Independent or group studies on special topics. Prerequisite: Permission of department chair.

Engineering Science

Engineering science courses are taught by faculty from mechanical, chemical engineering, petroleum engineering, electrical engineering, engineering physics, and computer science. All students in the College are eligible to take these courses, either as degree requirements or as electives.

Engineering Science (ES)

2013 (3 hours)

Statics

Statics of particles and rigid bodies, equilibrium of rigid bodies, distributed forces, centroids, forces in beams and cables, friction, and moments of inertia. Prerequisite: PHYS 2053.

2053 (3 hours)

Introduction to Materials Properties

Forces, moments, stress, strain, deformation, torsion, and twist. Body and surface forces.

Deflection in beams, combined stresses, and applications to engineering design.

Prerequisites: MATH 2073, PHYS 2053.

2073 (3 hours) Block 2

Professional Ethics in the Information Age

Introduction to workable ethical frameworks: Kantianism; Relativism; Utilitarianism; Social Contract Theory. Discussions of case studies in professional ethics, codes of ethical behavior and responsibility for the professional societies; ethical standards relating to responsible computing including thrust, privacy, ownership, security, safety, honor codes and social responsibility. Prerequisite: ENGL 1033. CS and IT majors may not take this course for degree credit.

2513 (3 hours)

Engineering Applications Programming

Introduction to applications programming using Matlab and VBA with Excel for the engineering disciplines. Emphasizes topics in modularization, data manipulation, and data visualization. Other topics include information system technology, algorithms, and numerical analysis. Weekly lecture and lab assignments. Prerequisite: MATH 2014.

3003 (3 hours)

Introductory Fluid Mechanics

Basic principles of fluid mechanics. Properties of fluids, fluid statics, concepts of control volume and transport theorem, equations of continuity and motion, Bernoulli's equation, incompressible flow in pipes and over submerged bodies, fluid measurements.

Prerequisites: MATH 2073, PHYS 2053.

Corequisite: ES 3053.

3023 (3 hours)

Mechanics of Materials

Definition of stress, strain and mechanical properties of engineering materials. Stress and deflection analysis of mechanical components.

Derivation of design relations between geometry, loading and material strength.

Mohr's circle, principal stresses and multiaxial strength analysis. Buckling and elastic stability.

Design problems and design of experiments included. Prerequisites: ES 2013, MATH 2073.

3053 (3 hours)

Thermodynamics

First and Second Laws, application to closed and open systems. Flow processes.

Thermodynamic properties of fluids. Steam.

Prerequisite: PHYS 2053. Corequisite: MATH 2073.

3063 (3 hours)

Solid State Electronic Devices

The physics and technology of semiconductors with emphasis on silicon and gallium arsenide.

Conduction processes, p-n junctions, bipolar junction transistors, field effect transistors, photonic devices, and integrated circuits.

Theoretical and practical aspects of device fabrication. Prerequisite: PHYS 2073 or CHEM 3033.

3073 (3 hours)**Heat Transfer**

Transfer of heat by conduction, radiation, and convection. Analysis of steady-state and simple transient heat processes. Introduction to heat exchanger design. Corequisites: ES 3003, MATH 3073.

3083 (3 hours)**Engineering Economics**

Economic aspects of engineering, including evaluating alternative courses of action. Replacement analysis, depreciation and depletion analysis, cash flow, incremental analysis, rate of return analysis. Desirability of new processes or projects where engineering and economic factors are concerned. Prerequisite: MATH 2024.

3861, 3862, 3863 (1-3 hours)**Special Topics in Engineering Science****4001 (1 hour)****Ethics and Responsibility in Scientific Research**

Discussion of basic principles for responsible and ethical research. Review of institutional, local, state, federal, and international policies governing ethical and responsible conduct of scientific research. Introduction to policies regulating the protection of human and animal subjects, internal review and the planning process. Confidentiality, intellectual ownership, reporting and managing conflicts. Data

management, collaborations, and authorship. Prerequisite: CS 2001 or equivalent.

4753 (3 hours)**Robotics Navigation**

Analysis of mechanisms involved in the design of robot manipulators and mobile robots. Geometric descriptions, transformations and DH conventions. Locomotion and mobile robots. Kinematics, dynamics, and control of robots. Autonomous robot platforms and modeling, control structures, sensing and estimation, localization, and motion planning. Prerequisites: MATH 3073 or 4123, CS 1043 or 2503, and either CHE 4113, ME 4054, EE 4053, or CS 2123; or permission of instructor.

4763 (3 hours)**Robotics Projects**

Introductory course in which students participate in the design, component construction, assembly, and programming of a FIRST-class robot applying engineering design and project management concepts to produce a working robot capable of participating in FIRST robotics competitions under a very tight six-week schedule. At competitions, students participate as support engineers for the FIRST team. At the end of competition time, students propose robot designs that incorporate features from other robots in the competition. Prerequisites: Either ME 3063, or EE 2003 and EE 2163, or CS 2123.

Geosciences

Chair

Bryan Tapp

Professors

Janet A. Haggerty

Peter J. Michael

Kerry Sublette

Associate Professors

Dennis R. Kerr

Kumar Ramachandran

Bryan Tapp

Applied Associate Professor

Winton Cornell

Assistant Professors

Jingyi Chen

Junran Li

The Department of Geosciences offers Bachelor of Science (B.S.) and Bachelor of Arts (B.A.) degree programs in geosciences.

B.S. Degree Programs

The B.S. degree programs require three semesters of mathematics in calculus and/or statistics, one year of chemistry, and one year of calculus-based physics. In addition, support courses in the sciences are required. Courses may not be offered every year. A six-credit-hour course in field geology is required and must be taken at another university. Students graduating with a B.S. degree in geosciences usually enter a professional career in the geosciences or further their education at the graduate level before working professionally in the geosciences.

B.S. degree options include:

- Bachelor of Science in Geosciences (B.S.G.S.)- Environmental Science Option
- Bachelor of Science in Geosciences (B.S.G.S.) - Geology Option
- Bachelor of Science in Geophysics (B.S.G.P.)

The goals of the Bachelor of Science programs in geosciences and geophysics are to provide students with critical content knowledge, and to develop their analytical skills.

Upon completion, students in the Bachelor of Science in Geosciences - Environmental Science Option degree program will:

- Understand Earth systems, their impact on humans and the impact that human activity can have,
- Develop skills to critically analyze environmental topics using quantitative methods, and
- Synthesize interdisciplinary knowledge about environmental challenges.

Upon completion, students in the Bachelor of Science in Geosciences - Geology Option degree program will:

- Understand Earth systems and the relationship of geosciences to society,
- Learn to communicate effectively within their discipline, and
- Develop the ability to think spatially and temporally to quantitatively solve problems.

Upon completion, students in the Bachelor of Science in Geophysics degree program will:

- Acquire detailed content knowledge in geophysics,
- Develop quantitative problem solving skills, and
- Develop critical thinking skills.

Students are encouraged to take minors in associated technical fields. Minors in mathematics, chemistry, physics, petroleum engineering and computer sciences are among the many minors available. Students may also minor in areas of special interest. Students in geosciences must maintain a grade point average of at least 2.0 in geoscience, math, chemistry and physics classes, and an overall grade point average of at least 2.0 in order to graduate. Foundation courses in geosciences include MATH 2014, CHEM 1013, GEOL 1014, and PHYS 2053. Refer to the table on page 360 of this *Bulletin* for specific GPA requirements.

Students in the 4+1 B.S./M.S. program will start research in their senior year. The suggested sequence of courses during the 5th year will be determined by the student's graduate advisor. Students interested in this program must have at least 60 hours completed with a grade point average of at least 3.5 in order to apply. Students in the 4+1 degree program take 9 hours of graduate courses in their fourth year, 3 to 6 hours of coursework during the summer, and the remaining courses during the fifth year.

B.A. Degree Programs

The Bachelor of Arts (B.A.) degree programs are broadly based, classical liberal arts degrees that offer considerable flexibility to students interested in the earth sciences, but who do not necessarily want to work in the petroleum industry or related industries. The degree programs offer an excellent background in the sciences and in technology while still preserving the flexibility and strength of a liberal arts education. The B.A. programs offer the technical background needed to compete effectively in a changing job market in a range of career paths. If free electives are selected carefully, this major can provide the background necessary for entry into graduate-level studies in law, geology, environmental science, environmental policy, meteorology, or business. Students are encouraged to select a minor in allied fields of study to enhance their educational experience.

B.A. degree options include:

- Bachelor of Arts with a Major in Earth and Environmental Sciences
- Bachelor of Arts with a Major in Geology

The goals of the Bachelor of Arts programs in geosciences are to provide students with content knowledge and an understanding of interdisciplinary research and communication.

Upon completion, students in the Bachelor of Arts with a Major in Earth and Environmental Sciences degree program will:

- Understand interactions of Earth's four major spheres,
- Develop critical thinking and communication skills, and
- Synthesize interdisciplinary knowledge about current environmental challenges.

Upon completion, students in the Bachelor of Arts with a Major in Geology degree program will:

- Develop an understanding of fundamental Earth processes,
- Develop the ability to synthesize and analyze original data, and
- Develop an appreciation for, and involvement in internationalization initiatives.

Many geology courses require field trips, and a nominal fee over and above tuition will be assessed to cover field trip expenses.

Teacher Certification

Students seeking secondary teacher certification in earth sciences must also complete requirements for a second major in education described under the School of Urban Education beginning on page 128 of this *Bulletin*. In addition, teacher certification requires proficiency in a second language at the novice level (see page 131).

Research

Both the B.S. and the B.A. track have options for undergraduate research for students wishing to participate in mentored research opportunities, and for geoscience internships for students wishing to gain practical experience in the industrial applications of the geosciences.

B.S. Degree Programs

Bachelor of Science in Geosciences (B.S.G.S.) - Geology Option

Mathematical Sciences14

 MATH 2014, 2024, 2073, Calculus I, II, III

 CS 2503, Scientific Programming *or*

 GEOL 4083, Introduction to Geographic Information Systems

Chemistry8

 CHEM 1013, 1011, General Chemistry I and Lab

 CHEM 1023, 1021, General Chemistry II and Lab

Physics8

 PHYS 2053, 2051, General Physics I and Lab

 PHYS 2063, 2061, General Physics II and Lab

Geology41

 GEOL 1014, Physical Geology

 GEOL 1991, Introduction to the Geosciences

 One of the following four courses:

 GEOL 1003, Introduction to Oceanography

 GEOL 1043, Geology of the National Parks

 GEOL 2053, Earth Resources

 GEOL 2063, Geological Hazards and Catastrophes

 GEOL 2003, History of the Biosphere

 GEOL 2143, Mineralogy

 GEOL 3063, 3061, Introduction to Structural Geology and Lab

 GEOL 3153, 3151, Sedimentary Rocks and Processes and Lab

 GEOL 4016, Field Geology

 GEOL 4144, Igneous and Metamorphic Rocks and Processes

 GEOG 3053, Geomorphology

 GPHY 2503, Physics of the Earth

 Geosciences Elective (3 hours - 3000 level or above)

Sciences, Mathematics, or Engineering Electives18

 Petroleum engineering, chemistry, physics, mathematics, or statistics. Selected with the approval of the student’s advisor.

General Electives (selected with the approval of the student’s advisor)18

Humanities, Social Sciences, and English24

 ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*

 Humanities and social sciences electives (18 hours); selections limited to courses that qualify as humanities or social sciences and meet the Tulsa curriculum requirements.

Total Hours 131

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

For calculating grade averages, major courses are all geology, geography, and geophysics courses.

Bachelor of Science in Geosciences (B.S.G.S.) - Environmental Science Option

Mathematical Sciences	14
MATH 2014, 2024, Calculus I, II	
STAT 2013, Introduction to Statistics	
CS 2503, Scientific Programming <i>or</i>	
GEOL 4083, Introduction to Geographic Information Systems	
Basic Sciences	19
CHEM 1013, 1011, General Chemistry I and Lab	
CHEM 1023, 1021, General Chemistry II and Lab	
CHEM 3013, Organic Chemistry I	
PHYS 2053, 2051, General Physics I and Lab	
PHYS 2063, 2061, General Physics II and Lab	
Geoscience Professional Courses	52
GEOL 1003, Introduction to Oceanography	
GEOL 1014, Physical Geology	
GEOL 1991, Introduction to the Geosciences	
GEOL 2003, History of the Biosphere	
GEOL 2063, Geological Hazards and Catastrophes	
GEOL 2143, Mineralogy	
GEOL 3063, 3061, Introduction to Structural Geology and Lab	
GEOL 3153, 3151, Sedimentary Rocks and Processes and Lab	
GEOL 3573, Environmental Geology	
GEOL 4016, Field Geology	
GEOL 4513, Hydrogeology	
GEOL 4523, Environmental Geochemistry	
GEOG 3053, Geomorphology	
GPHY 4513, Environmental Geophysics	
Geosciences Elective (3 hours - 3000 level or above)	
CHE 4163, Environmental Engineering	
Technical Electives.....	15
Selected with the approval of the advisor. Any course in the College of Engineering and Natural Sciences can be taken; however, advanced courses in geosciences, chemistry, petroleum engineering, chemical engineering or mathematics are generally encouraged.	
General Electives.....	6
Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*	
Humanities and social sciences electives (18 hours); selections limited to courses that qualify as humanities or social sciences and meet the Tulsa curriculum requirements.	
Total Hours	130

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

For calculating grade averages, major courses are all those listed under the heading Geosciences Professional Courses.

Bachelor of Science in Geophysics (B.S.G.P.)

Mathematical Sciences20

 MATH 2014, 2024, 2073, Calculus I, II, III

 MATH 3073, Differential Equations

 MATH 4123, Linear Algebra and Matrix Theory

 MATH 4143, Introduction to Partial Differential Equations

Chemistry 8

 CHEM 1013, 1011, General Chemistry I and Lab

 CHEM 1023, 1021, General Chemistry II and Lab

Physics 8

 PHYS 2053, 2051, General Physics I and Lab

 PHYS 2063, 2061, General Physics Lab II and Lab

Electrical Engineering.....6

 EE 2003, Electrical Circuit Analysis

 EE 3023, Introduction to Electromagnetics

Technical Electives 11

 Any course within the College of Engineering and Natural Sciences, selected with approval of student’s advisor.

Geology-Geophysics.....39

 GEOL 1014, Physical Geology

 GEOL 1991, Introduction to the Geosciences

 GEOL 2143, Mineralogy

 GEOL 3063, 3061, Introduction to Structural Geology and Lab

 GEOL 3153, Sedimentary Rocks and Processes

 GEOL 4063, Petroleum Geology

 GEOL 4083, Introduction to Geographic Information Systems

 GPHY 2503, Physics of the Earth

 GPHY 4003, Petroleum Seismology

 GPHY 4023, Field Methods in Geophysics

 GPHY 4033, Seismic Data Processing and Interpretation

 GPHY 4053, Applied Geophysics

 GPHY 4063, Well Logging for Geologists and Geophysicists

General Electives 15

 Selected with the approval of the student’s advisor.

Humanities, Social Sciences, and English24

 ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*

 Humanities and social sciences electives (18 hours); selections limited to courses that qualify as humanities or social sciences and meet the Tulsa curriculum requirements.

Total Hours 131

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

For calculating grade averages, major courses are all geology and geophysics courses.

B.A. Degree Programs

Bachelor of Arts with Major in Earth and Environmental Sciences

Geoscience Courses35

 GEOL 1014, Physical Geology

 GEOL 1991, Introduction to the Geosciences

 GEOL 2003, History of the Biosphere

 GEOL 2053, Earth Resources

 GEOL 2143, Mineralogy

 GEOL 3573, Environmental Geology

 GEOL 4523, Environmental Geochemistry

 Two additional geosciences courses selected from the following:

 GEOL 1003, Introduction to Oceanography

 GEOL 1043, Geology of National Parks

 GEOL 2063, Geological Hazards and Catastrophes

 Three additional geosciences courses selected from the following:

 GEOG 3053, Geomorphology

 GEOL 3153, Sedimentary Rocks and Processes

 GEOL 4083, Introduction to Geographic Information Systems

 GEOL 4513, Hydrogeology

 GPHY 4513, Environmental Geophysics

Mathematical Sciences6

 MATH 1163, Pre-calculus Mathematics

 STAT 2103, Introduction to Statistics

Basic Sciences15

 CHEM 1013 and 1011, General Chemistry I and Lab

 PHYS 1003, Liberal Art of Physics

 BIOL 1603 and 1611, Introduction to Organismal and Evolutionary Biology and Lab

 BIOL 3164, Field Ecology

Social Sciences6

 SOC 3143, Environmental Sociology

 ECON 3123, Resources and the Environment

General Electives.....18

 Selected with the approval of the student’s advisor

Humanities, Social Sciences and English24

 ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*

 Humanities and social sciences electives (18 hours); selections limited to courses that qualify as humanities or social sciences and meet the Tulsa curriculum requirements.

Language.....14

Cultural Diversity6

Total Hours124

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

Bachelor of Arts with Major in Geology

Geology-Geophysics.....38

 GEOL 1014, Physical Geology

 GEOL 1991, Introduction to the Geosciences

 GEOL 2003, History of the Biosphere

 GEOL 2143, Mineralogy

 One of the following elective courses:

 GEOL 1003, Introduction to Oceanography

 GEOL 1043, Geology of National Parks

 GEOL 2063, Hazards and Catastrophes

 GEOL 3063 and 3061, Introduction to Structural Geology and Lab

 GEOL 3153 and 3151, Sedimentary Rocks and Processes and Lab

 GEOL 4016, Field Geology

 GEOL 4144, Igneous and Metamorphic Rocks and Processes

 GEOG 3053, Geomorphology

 Upper level geosciences elective (3 hours at the 3000 level or above)

Mathematics13

 MATH 1163, Pre-calculus Mathematics

 MATH 2014, Calculus I

 STAT 2013, Introduction to Statistics *or* Math Elective

 CS 2503, Scientific Programming *or*

 GEOL 4083, Introduction to Geographic Information Systems

Chemistry8

 CHEM 1013 and 1011, General Chemistry I and Lab

 CHEM 1023 and 1021, General Chemistry II and Lab

Physics8

 PHYS 1013 and 1011, Introductory Physics I and Lab

 PHYS 1023 and 1021, Introductory Physics II and Lab

Humanities, Social Sciences, and English24

 ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*

 Humanities and social sciences electives (18 hours); selections limited to courses that qualify as humanities or social sciences and meet the Tulsa curriculum requirements.

Language Requirement.....14

Cultural Diversity6

General Electives13

 Selected with the approval of the student’s advisor. Must be at 3000-4000 level.

Total Hours124

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

Geography (GEOG)

3053 (3 hours)

Geomorphology

Description, analysis, and interpretation of landforms on the earth's surface. Utilization of aerial photographs and topographic maps.

Prerequisites: GEOL 1014 or equivalent and junior standing.

4861, 4862, 4863, 4864, 4865, 4866

(1-6 hours)

Special Topics in Geography

4991, 4992, 4993, 4994 (1-4 hours)

Independent Study

Independent or group studies on special topics.

Prerequisite: Permission of instructor.

Geology (GEOL)

1003 (3 hours) Block 3

Introduction to Oceanography

The physical nature of the oceans, and the geological, chemical and biological processes that affect the entire planet. Emphasis on interdependence of the biosphere, hydrosphere and atmosphere, influence of humankind on oceans, and costs and benefits of human exploitation. Oceanographic research is explored through student-conducted expedition to an area lake.

1014 (4 hours) Block 3

Physical Geology

General geology of Earth, to include its processes and products, including rocks and minerals, faults and folds, landslides, streams, glaciers, oceans, volcanoes, earthquakes, plate tectonics, and effects of and on humankind. Three hours lecture and one laboratory each week.

1043 (3 hours) Block 3

Geology of the National Parks

An overview of the geology of the national parks of the United States. Demonstration of geologic principles and processes, as well as earth history, using the dramatic geological examples preserved in our national parks.

1991 (1 hour)

Introduction to the Geosciences

An overview and introduction to the geological sciences.

2003 (3 hours)

History of the Biosphere

History of life, when and under what circumstances different organisms first appeared, how they lived, their fossilization, the timing and causes of major extinctions, and the practical use of fossils. Laboratory surveys

major fossil invertebrate groups, emphasizing biological significance of fossilized features.

Prerequisite: GEOL 1014.

2053 (3 hours) Block 3

Earth Resources

Introduction to earth's resources: what they are, where and how they are located, and their utilization and exploitation by humankind. Topics include metals, industrial rocks and minerals, chemical minerals, fossil fuels, water and soils, as well as nuclear power, alternative energy sources, and resources for the future.

2063 (3 hours) Block 3

Geological Hazards and Catastrophes

Introduction to the origin, nature and prediction of both process-related hazards such as earthquakes, volcanoes, floods and coastal hazards and materials-related hazards such as asbestos, swelling soils and radon. Specific case examples are examined by accessing data and reports electronically. Local field trips may be included.

2143 (3 hours)

Mineralogy

Systematic introduction to minerals as naturally occurring, crystalline substances, crystallography, crystal chemistry, classification, occurrences, and associations, plus megascopic and instrumental methods of identification. Two hours lecture and one three-hour laboratory session each week. Prerequisite: CHEM 1013. Corequisite: GEOL 1014. A working knowledge of plane geometry and trigonometry is essential.

2571, 2572, 2573 (1, 2, or hours)

Introduction to Geosciences Internship

Development of critical career skills with emphasis on field and analytical skills

pertaining to industrial applications of the Geosciences. Work will be in conjunction with industry mentor and faculty member. Course may be repeated for up to three total hours of credit. Prerequisites: Permission of instructor and mentor.

2871, 2872, 2873 (1-3 hours)**Introduction to Research**

Development of critical research skills with emphasis on field, lab and analytical skills. Work includes collection and analysis of field and lab data, literature search, and presentation of results. Course may be repeated for up to 3 total hours of credit. Prerequisite: Permission of instructor.

3061 (1 hour)**Structural Geology Laboratory**

Techniques of structural analysis in the laboratory using both graphical and analytical techniques. One three-hour laboratory session each week. Corequisite: GEOL 3063, laboratory and lecture must be taken concurrently.

3063 (3 hours)**Introduction to Structural Geology**

Structural features and the processes that form them. Description and origin of geological structures and their tectonic associations. Includes a required field trip. Prerequisite: GEOL 2143 or permission of instructor. Corequisite for geology majors: GEOL 3061.

3151 (1 hour)**Sedimentary Rocks and Processes Laboratory**

An introduction to the description and interpretation of sediments and sedimentary rocks. Field trips are required. Prerequisite: GEOL 1014. Corequisite: GEOL 3153.

3153 (3 hours)**Sedimentary Rocks and Processes**

An introduction to the processes responsible for production, transport, and deposition of sedimentary particles. Overview of sedimentary environments and facies. Emphasis on principles and applications. Prerequisites: GEOL 1014 and junior standing.

3573 (3 hours)**Environmental Geology**

Application of geoscience principles to environmental problems. Topics include

flooding, landslides, erosion, groundwater, and the interpretation of topographic maps and aerial photographs. Prerequisites: GEOL 1014 or GEOL 2003 and junior standing.

4016 (6 hours)**Field Geology**

Required for all geology majors. Students must take this course at another university. Mapping and interpretation of the geology of selected areas, concentrating on structural and petrologic aspects. Several mapping projects using aerial photographs and topographic maps, final maps, and short reports are required. Prerequisites: GEOG 3053, GEOL 3063, 3061, 3153, 3151, and 4144.

4063 (3 hours)**Petroleum Geology**

Synthesis of geology, geophysics, and geochemistry as applied to petroleum exploration, petroleum production, reservoir characterization, and enhanced oil recovery. Prerequisites: GEOL 1014 and 3153, or permission of instructor.

4083 (3 hours)**Introduction to Geographic Information Systems**

Fundamentals of the design and use of spatial datasets in computerized mapping and analysis of spatial data. Technical and scientific aspects of the collection, query, analysis and presentation of spatial data from a wide range of disciplines using industry standard software tools. Lecture and computer lab components. Prerequisites: GEOL 1014 or equivalent; senior standing or permission of instructor.

4144 (4 hours)**Igneous and Metamorphic Rocks and Processes**

Igneous and metamorphic rocks of the earth's crust and their processes of formation, alteration, and occurrence in space and time. Laboratory stresses the coordination of megascopic and petrographic studies of rocks. Three hours lecture and one three-hour lab each week. Prerequisite: GEOL 2143. Should be completed before taking field camp.

4253 (3 hours)**Marine Geology**

Rocks, sediments, geophysics, structure, and stratigraphy of the ocean basins and their

margins. Prerequisite or corequisite: GEOL 3153 or permission of instructor.

4513 (3 hours)

Hydrogeology

Introduction to the properties of water and the hydrologic cycle. Surface and groundwater systems, exploration techniques, well design, well hydraulics and aquifer tests. Prerequisite: GEOL 3153.

4523 (3 hours)

Environmental Geochemistry

Geochemical processes controlling the composition of the natural system and its response to natural and man-made disturbances. Major, trace element and isotopic compositions of the atmosphere, surface and subsurface waters, and the rock/soil system. Prerequisite: Junior standing or permission of the instructor.

4571, 4572, 4573 (1-3 hours)

Geosciences Internship

Unpaid internship under supervision of faculty member and industry mentor. Course may be

repeated for up to 3 total hours of credit. Prerequisite: Permission of instructor and mentor.

4861, 4862, 4863, 4864, 4865, 4866

(1-6 hours)

Special Topics in Geology

4871, 4872, 4873 (1 - 3 hours)

Undergraduate Research

Individual research project under the supervision of a faculty member. Course may be repeated for up to 3 total hours of credit. Prerequisite: Permission of instructor.

4983 (3 hours)

Senior Thesis

Development of an individual research project under the direction of a faculty member. Topics may include field, laboratory, or computing research.

4991, 4992, 4993, 4993 (1-4 hours)

Independent Study

Independent or group studies on special topics. Prerequisites: Permission of instructor and at least a B average.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5113 (3 hours)

Plate Tectonics

Lecture and seminar covering global tectonics, plate boundary phenomena, structural associations and assemblages, petrologic associations and assemblages and the mechanics of plate motion and interaction. Term paper required. Prerequisites: GEOL 3063, 3153, 4144; MATH 2073; PHYS 2063; or permission of instructor.

5263 (3 hours)

Carbonate Sedimentology

Carbonate depositional environments and description and classification of limestones. Field trips may be required, for which a nominal fee will be assessed. Prerequisites: GEOL 2003 and 3153 or permission of instructor.

5303 (3 hours)

Tectonics and Sedimentation

An evaluation of the relationship between tectonic deformation and sedimentation

processes. In addition to traditional lectures, readings from the current literature and case studies will be discussed. Includes a required field trip to the Arkoma-Ouachita foreland systems. Prerequisites: GEOL 3063, 3153 and permission of instructor.

5333 (3 hours)

Advanced Stratigraphic Analysis

Application of quantitative methods to stratigraphic analysis. Survey and application of sequence stratigraphy. Course activities emphasize hands-on exercises. Prerequisite: Permission of instructor.

5413 (3 hours)

Geochemistry

Chemical principles that govern the distribution of elements and isotopes among the atmosphere, hydrosphere, and solid earth. Prerequisites: GEOL 1014 and CHEM 1023.

5433 (3 hours)**Organic Geochemistry**

Geochemistry of organic substances with emphasis on the origin and diagenesis of petroleum. Prerequisites: CHEM 1023, GEOL 4063, or permission of instructor.

5513 (3 hours)**Microanalysis**

Application of microanalytical techniques to the chemical and structural characterization of solid materials. Electron beam imaging and x-ray microanalysis, x-ray diffraction, micro-vibrational spectroscopy and optical microscopy. One lecture per week plus independent lab projects. Prerequisite: Permission of instructor.

Geophysics (GPHY)

2503 (3 hours)**Physics of the Earth**

Introduction to the study of the physics of the solid Earth, including the workings of both the Earth's surface and its deep interior. Covers principles of seismology, gravity, magnetism and heat flow applied to whole earth structure and plate tectonics. Description of crust, mantle, and core of the earth as determined from geophysical methods. Prerequisites: GEOL 1014 and MATH 2014, or permission of instructor.

4003 (3 hours)**Petroleum Seismology**

Acquisition, processing and (as time allows) interpretation of 3D seismic reflection data. Topics include wave properties, 1D seismic concepts, 2D seismic acquisition, seismic economics, land and marine acquisition methods, overview of processing with emphasis on migration concepts. Prerequisites: MATH 2024, PHYS 2063, senior standing.

4023 (3 hours)**Field Methods in Geophysics**

The application of geophysical field methods for delineating near-surface features and/or structures as applied to exploration, environmental, and engineering problems. Field design, ground positioning, instrumentation, practical field data acquisition with gravimeter, magnetometer, ground-

5713 (3 hours)**Regional Tectonics**

Review course covering structural styles, associations, and models. Involves extensive reading on geology of selected areas. Seminar format, term papers required. Prerequisites: GEOL 3063 and permission of instructor.

5723 (3 hours)**Geomechanics**

Introduction to the application of continuum mechanics to geology. Topics covered include stress, strain, buckling, bending, fracturing, isostasy, and heat conduction. Term paper and field trip required. A nominal fee will be charged to cover travel expenses. Prerequisites: GEOL 3063 3061; MATH 2073; PHYS 2063; and permission of instructor.

penetrating radar, electrical resistivity, electromagnetic, and seismic equipment. Processing and interpreting acquired data. Prerequisites: GPHY 4053 and 4003.

4033 (3 hours)**Seismic Data Processing and Interpretation**

Fourier Transform Theory in continuous and discrete time. Filter theory and the Z-transform, filter stability, introduction to wave equation. Interpretation of processed seismic data. Prerequisites: GPHY 4003, MATH 4123, 4143.

4053 (3 hours)**Applied Geophysics**

Survey of applied geophysics describing physical methods involved in exploration for hydrocarbons and minerals. Applications of physics to measurements made for mapping near surface earth structure. Gravity, magnetic, electrical, electro-magnetic, bore-hole logging, ground penetrating radar, seismic, and radioactivity methods for mapping sub-surface will be discussed. Introduction to data processing and interpretation with the objective of locating natural resources. Prerequisites: GPHY 2053, EE 3023.

4063 (3 hours)**Well Logging for Geologists and Geophysicists**

Electrical, acoustic, and radioactive properties of rocks. Introduction to well logging theory and interpretation of subsurface logs.

Prerequisites: GEOL 3153, PHYS 2063.

4513 (3 hours)**Environmental Geophysics**

Application of geophysical methods to near surface problems. Topics include microgravity, magnetics, electrical conductivity, electrical resistivity, and ground penetrating radar.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5133 (3 hours)**Exploration Seismology**

Mathematical treatment of wave propagation theory pertinent to hydrocarbon exploration. Focuses on field design criteria for data acquisition and theoretical aspects of seismic data processing. Prerequisites: MATH 4123, 4143, GPHY 4003 or permission.

5153 (3 hours)**Integrated Seismic Data Interpretation**

Focuses on aspects of seismic data interpretation for detailing subsurface structure and rock properties for hydrocarbon exploration. Covers the methodology of integrated interpretation of seismic, gravity, magnetic and well log data. Prerequisites: GPHY 4003 and GEOL 4063, or permission.

Emphasis given to case histories and interpretation. Prerequisite: PHYS 2063, permission of instructor.

4861, 4862, 4863, 4864, 4865, 4866**(1-6 hours)****Special Topics in Geophysics****4991, 4992, 4993, 4994 (1-4 hours)****Independent Study**

Independent or group studies on special topics. Prerequisites: Permission and at least a B average.

5173 (3 hours)**Time Series Analysis and Inverse Theory**

Covers aspects of digital data processing for signal extraction. Time series analysis will focus on conditioning the acquired data. Also covers parameter estimation through linear and non-linear inverse modeling of geophysical data. Prerequisites: MATH 4123, 4143, or permission.

5183 (3 hours)**Special Processing of Seismic Data**

Focuses on processing real seismic data on a workstation to deliver practical experience in advanced seismic data processing for detailed imaging of the subsurface. Prerequisites: GPHY 7133 or permission.

Mathematics

Chair

William A. Coberly

Professors

Christian Constanda

J. C. Diaz

Dale R. Doty

Kevin A. O'Neil

Richard A. Redner

Albert C. Reynolds, Jr.

Dale A. Schoenefeld

Associate Professors

William A. Coberly

Peyton J. Cook

Shirley B. Pomeranz

Assistant Professors

Brett McKinney

Eunha Shim

Applied Assistant Professors

Janica Edmonds

William Hamill

Senior Instructor

Amy Schachle

Instructor

Kimberly Adams

The Department of Mathematics offers degree programs in mathematics and applied mathematics and provides courses in mathematics and statistics to serve the needs of all students at the University. The mission of the Department of Mathematics is to provide students with an understanding of mathematical knowledge, methods, and analytical skills needed to pursue advanced degrees or careers requiring expertise in mathematics. To that end, students will be expected to:

- Demonstrate the ability to apply algebraic, geometric, calculus and higher-order thinking, and statistical methods to modeling and solving real-world problems.
- Use mathematical reasoning skills and formal logic to develop convincing mathematical arguments.
- Use computational tools to enhance mathematical thinking and understanding, to solve mathematical problems, and to judge the reasonableness of the results.

Both a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) degree in mathematics are offered and provide the student with a sound foundation in mathematics. The B.A. program encourages the study of languages, whereas the B.S. program emphasizes supporting study in the physical sciences and computer science.

The Bachelor of Science in Applied Mathematics (B.S.A.M.) is offered with five options: computer sciences, engineering, biomathematics, business, and education. Each student must select one option and meet those requirements. The options provide a field of application for the mathematics student. All options carry the same mathematics requirement but differ in required supporting subjects. The applied mathematics program provides a solid foundation in undergraduate mathematics in preparation for graduate study or for a position in business or industry.

Combined Bachelor's/Master's Degree Program

The Department of Mathematics offers a five-year bachelor's-master's joint degree program in Applied Mathematics. The requirements for participants in this program can be found in The University of Tulsa *Graduate Bulletin* under the regulations for the Master of Science in Applied Mathematics.

Honors Program

The Department of Mathematics provides flexible scheduling for students participating in the University's Honors Program. Students in any mathematics degree program with exceptional records are eligible for admission to the Honors Program. Interested students should consult the director of the Honors Program or the department chair. More information about the Honors Program may be found on pages 20 and 84 of this *Bulletin* or at www.utulsa.edu/academics/Honors-Program.aspx.

Teacher Certification

Teacher certification in mathematics can be obtained by meeting the degree requirements of the Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) degree in mathematics or the Bachelor of Science in Applied Mathematics (B.S.A.M.) and by meeting the requirements set by the School of Urban Education described beginning on page 128 of this *Bulletin*. Students are advised in professional education by the faculty of the School of Urban Education and are advised in their major by the faculty of mathematics. Students seeking certification must demonstrate proficiency in a second language at the novice level (see page 131) and some mathematics electives may be specified.

Minor in Mathematics

Students from other disciplines may minor in mathematics. The mathematics minor consists of Calculus I (MATH 2014) and Calculus II (MATH 2024) and at least 15 hours above Calculus II including MATH 3033. MATH 4373 may not be used as part of the 15-hour requirement. Interested students should consult the Department of Mathematics.

Mathematics Core for All Mathematics Degree Programs

Mathematics39

 MATH 1001, Introduction to Mathematics

 MATH 2014, 2024, 2073, Calculus I, II, and III

 MATH 3033, Introduction to Advanced Mathematics

 MATH 3073, Differential Equations

 MATH 3553, Modern Algebra

 MATH 4003, Advanced Calculus I

 MATH 4123, Linear Algebra and Matrix Theory

 Math electives (12 hours) selected with the approval of the student’s advisor. (Some options and minors may require specific courses.)

Computer Science3

 CS 2503, Scientific Programming *or*

 CS 1043, Introduction to Programming and Problem-solving

Humanities, Social Sciences, and English24

 ENGL 1033, Exposition and Argumentation*

 ENGL 3003, Writing for the Professions

 Tulsa Curriculum requirements in Blocks I and II (18 hours)

Total Hours 66

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

Bachelor of Science with Major in Mathematics Requirements

Mathematics Core66

Minor Field (selected with the approval of the student’s advisor)12

Tulsa Curriculum Block III Courses7

General Electives39

Total Hours124

Bachelor of Arts with Major in Mathematics Requirements

Mathematics Core66

Minor Field12

Tulsa Curriculum Block III Courses7

Foreign Language.....14

General Electives25

Total Hours124

To become a candidate for a degree in mathematics, a student must complete all mathematics courses in the curriculum with a grade point average of at least 2.0, and earn a grade point average of 2.0 or higher overall.

Bachelor of Science in Applied Mathematics (B.S.A.M.) Requirements

Mathematics Core66

Math elective3

 Selected with the approval of the student’s advisor. Some options and minors may require specific courses.

Applied Mathematics Option55

Total Hours124

To become a candidate for a degree in applied mathematics, a student must complete all mathematics courses in the curriculum with a grade point average of at least 2.0, and earn a grade point average of 2.0 or higher overall.

Applied Mathematics Options

Computer Sciences Option

Computer Sciences.....18

 CS 1043, Introduction to Programming and Problem-solving

 CS 2003, Fundamentals of Algorithm and Computer Applications

 Computer science electives (12 hours), at least three courses at the 3000 level or above, selected with the approval of the student’s advisor.

Sciences and Engineering.....16

 PHYS 2053, 2051, General Physics I and Lab

 Basic science, engineering science, and engineering electives (12 hours) selected with the approval of the student’s advisor.

General Electives (selected with advisor’s approval).....21

Total Hours 55

Engineering Option

Basic Sciences11

 CHEM 1013, 1011, General Chemistry I and Lab

 PHYS 2053, 2063, General Physics I, II

 PHYS 2051, General Physics Lab I

Engineering Science and Engineering25

 EE 2001, Basic Electrical Measurements Lab

 EE 2003, Electric Circuit Analysis

 ES 2013, Statics

 ME 2023, Introduction to Dynamics

 ES 3023, Mechanics of Materials

 ES 3053, Thermodynamics

 Engineering science and engineering electives (9 hours) selected with the approval of the student’s advisor. (Students with double majors may, with advisor’s approval, make substitutions in the above engineering science courses.)

General Electives (selected with advisor’s approval).....19

Total Hours 55

Business Option

Business Core	29
ACCT 2113, 2123, Concepts of Accounting Information I and II	
ECON 2013, Principles of Economics I: Macroeconomics	
ECON 2023, Principles of Economics II: Microeconomics	
Business electives (selected with approval of student's advisor)	
Tulsa Curriculum Block III Courses	7-8
General Electives (selected with approval of student's advisor).....	18-19
Total Hours	55

Biomathematics Option

Biomathematics Courses	29
BIOL 1603, 1611, Introduction to Organismal and Evolutionary Biology and Lab	
BIOL 1703, 1711, Introduction to Molecular and Cellular Biology and Lab	
BIOL 2124, Genetics	
CHEM 1013, 1011, General Chemistry I and Lab	
CHEM 1023, 1021, General Chemistry II and Lab	
CS/BIOL 4643, Bioinformatics	
Electives (6 hours) (computer science, basic science, mathematics, or statistics approved by advisor)	
General Electives (selected with approval of student's advisor).....	26
Total Hours	55

Education Option

Professional Education.....	31
EDUC 1101, Introduction to Education	
EDUC 2104, Foundations of Education	
EDUC 3713, Child and Adolescent Development and Learning	
EDUC 3733, Measurement and Evaluation	
EDUC 4013, Education of the Exceptional Child	
EDUC 4214 Teaching Methods for Middle and Secondary Schools	
EDUC 4626, Student Teaching in Middle School	
EDUC 4636, Student Teaching in Senior High School	
EDUC 4971, Seminar in Student Teaching	
Tulsa Curriculum Block III Courses	7-8
General Electives (selected with the approval of student's advisor).....	16-17
Total Hours	55

Mathematics (MATH)

1001 (1 hour)

Introduction to Mathematics

An overview and introduction to the field of mathematics.

1053 (3 hours)

College Algebra

Linear and quadratic equations. Properties of exponents. Factoring. Graphing. Functions, including logarithmic and exponential functions. Inequalities. Advisors may require this course as a prerequisite to MATH 1083, 1093, or 1163.

1083 (3 hours)

Contemporary Mathematics

Contemporary topics are addressed through a mathematical approach. Quantitative topics from fields such as applied mathematics, discrete mathematics, and statistics are applied to areas such as social choice, management science, finances, information science, and art. Prerequisites: Three years of high school mathematics and a passing score on the ACT or the University mathematics placement examination.

1093 (3 hours)

Mathematics with Applications

Calculus preparatory course emphasizing a functional approach to topics in algebra, exponents and logarithms, and analytic geometry with some applications to business. Prerequisites: MATH 1053 or three years of high school mathematics, including a second year of algebra, and a passing score on the ACT or the University mathematics placement examination.

1103 (3 hours)

Basic Calculus

Calculus for students of business and the social and life sciences. Quadratics. Logarithms. Exponential functions. Introduction to differential and integral calculus. Prerequisite: MATH 1093.

1163 (3 hours)

Pre-calculus Mathematics

Intensive calculus preparatory course emphasizing a functional approach to topics in algebra, trigonometry, exponents and logarithms, and analytic geometry that are

essential to the study of calculus. Students should consult with advisor to determine whether this course can be taken for credit in a particular degree program. Prerequisites: Equivalent of two years high school algebra and one year plane geometry, or the University mathematics placement examination, or MATH 1053.

2014 (4 hours)

Calculus I

Theory and application of the differential calculus of polynomial, exponential, logarithmic and trigonometric functions. Graphical, numerical and analytical solutions to applied problems involving derivatives. Introduction to the integral. Prerequisites: MATH 1163 or equivalent, and passing score on the University mathematics placement examination.

2024 (4 hours)

Calculus II

Definite and indefinite integrals of functions of a single variable. Improper integrals. Infinite series. Introduction to differential equations. Emphasis on applications of calculus and problem solving using technology in addition to symbolic methods. Prerequisite: MATH 2014.

2073 (3 hours)

Calculus III

Vector geometry, algebra and calculus. Partial and directional derivatives. Double and triple integrals. Vector fields. Line and surface integrals. Theorems of Green, Stokes and Gauss. Prerequisite: MATH 2024.

3013 (3 hours)

Discrete Mathematics

Theory and applications of mathematical models fundamental to the analysis of discrete problems. Introduction to set theory, relations, and functions. Principles of counting and other combinatorial problems. Introduction to graph theory and its application to algorithm analysis. Formal logic, methods of proof, and correctness of algorithms. Recursion and recursive definitions. Prerequisite: MATH 2014 or permission of instructor. Same as CS 3013.

3033 (3 hours)**Introduction to Advanced Mathematics**

Introduction to mathematical logic, sets, relations, functions, and cardinality. Introduction to theorem proving. Prerequisite: MATH 2024.

3063 (3 hours)**Introduction to Number Theory**

Diophantine equations. Congruence relations and order. Quadratic reciprocity. Mobius inversion. Dirichlet series. Prerequisite: MATH 3033.

3073 (3 hours)**Differential Equations**

First, second, and higher order equations. Systems of differential equations. Analytic methods of solution. Applications to science and engineering. Prerequisite: MATH 2024.

3513 (3 hours)**Modern Geometries**

Topics in Euclidean and Non-Euclidean Geometry. Recommended for prospective secondary math teachers. Prerequisite: MATH 3033.

3553 (3 hours)**Modern Algebra**

An introduction to abstract algebra. Groups, rings, and fields. Mappings and quotients. Applications to other areas of mathematics and science. Prerequisite: MATH 3033 or permission of instructor.

3971 (1 hour)**Seminar in Mathematics**

Offered to selected students who show promise of advanced work at the undergraduate level. Topics leading to a deeper understanding of basic college mathematics will be considered. Prerequisite: Permission of instructor.

4003 (3 hours)**Advanced Calculus I**

Rigorous development of elementary calculus. Limits, continuity, derivatives, Taylor's formula. The Riemann integral. Infinite series. Prerequisites: MATH 3033 and 3073.

4013 (3 hours)**Advanced Calculus II**

Rigorous development of multivariable calculus. Derivatives and integrals. Fourier

series. Differential forms. Prerequisite: MATH 4003.

4053 (3 hours)**Differential Geometry**

The geometry of curves and surfaces from a modern point of view. Frenet frames. Curvature. Fundamental forms. Invariants. Applications to architecture and engineering. Prerequisites: MATH 2073 and 3033, or permission of instructor.

4083 (3 hours)**Introduction to Topology**

Introduction to point-set topology. Topological and metric spaces. Continuous functions. Products and quotients. Compact and connected spaces. Prerequisite: MATH 3033.

4123 (3 hours)**Linear Algebra and Matrix Theory**

Systems of linear equations. Eigenvalues and eigenvectors. Finite dimensional vector spaces. Linear transformations with applications. Numerical solutions of systems of linear equations. Prerequisite: MATH 2024.

4133 (3 hours)**Introduction to Complex Functions**

Complex numbers and functions. Complex derivatives and integrals. Taylor and Laurent series, residues. Conformal mapping with applications. Prerequisite: MATH 2073.

4143 (3 hours)**Introduction to Partial Differential Equations**

Fourier series. Sturm-Liouville problems. The heat, Laplace, and wave equations. Separation of variables. Eigenfunction expansion. Fourier and Laplace transformations. Green's functions. Canonical forms of second-order linear equations. Method of characteristics. Asymptotic expansion techniques. Prerequisite: MATH 3073.

4213 (3 hours)**Mathematical Modeling**

The process of construction, analysis, and validation of mathematical models for continuous and discrete problems based on concrete examples. Projects are required. Prerequisite: MATH 3073.

4353 (3 hours)**History of Mathematics**

Overview of the history of mathematics from ancient Egypt to the present. Appropriate for undergraduate math and math education majors as well as students working toward master's degrees in math/science education.

Prerequisite: MATH 2014.

4373 (3 hours)**Mathematical Concepts and Reasoning**

Topics in mathematics relevant to the teaching of mathematics in elementary and middle schools, including geometry, logic, mathematical problem solving, and use of technology in the teaching of mathematics. This is the capstone mathematics course for elementary education majors. Prerequisites: MATH 1053, 1083; STAT 2013; and junior standing.

4503 (3 hours)**Introduction to Numerical Methods**

Error analysis of computer arithmetic. Solution of nonlinear equations. Roots of polynomials. Interpolation and approximation methods. Numerical differentiation and integration. Initial value problems for ordinary differential equations. Prerequisites: MATH 2024.

4703 (3 hours)**Numerical Methods for Initial and Boundary Value Problems**

Basic numerical methods for solving initial value problems and boundary value problems for differential equations arising in science and engineering are studied. Finite difference methods for elliptic, parabolic, and hyperbolic partial differential equations are emphasized. Introduction to the mathematics and use of the finite element method is included. Prerequisite: MATH 2073 or consent of instructor.

4863 (3 hours)**Special Topics in Mathematics****4983 (3 hours)****Senior Thesis**

Each student investigates a mathematical topic not covered by his or her previous undergraduate work. Submission of a written thesis and an oral presentation is required. Prerequisites: Senior standing and departmental approval.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Independent or group studies on special topics. Prerequisite: Permission.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5013 (3 hours)

Advanced Mathematical Modeling

The process of construction, analysis, and validation of dynamic and discrete mathematical models for the physical sciences. Computer implementation and subsequent assessment of mathematical models. Introduction to the Mathematica programming environment. Prerequisites: MATH 3073 and MATH 4123 or consent of instructor.

5103 (3 hours)

Advanced Differential Equations

Series solutions. Distributions and wave solutions for initial and boundary value problems. Perturbation methods. Nonlinear partial differential equations. Complex variable techniques. Systems of partial differential equations. Prerequisite: MATH 3073.

5243 (3 hours)

Computational Linear Algebra

Computational techniques for the solution of systems of linear and non-linear algebraic equations. Emphasis on the intelligent use of existing software packages. Laboratory exercises using matrix-based computational environments required. Prerequisite: MATH 4123.

5253 (3 hours)

Numerical Optimization

An introduction to numerical techniques for unconstrained and constrained optimization. Applications to nonlinear regression and science and engineering problems.

5273 (3 hours)

Numerical Differential Equations

Numerical analysis of engineering and scientific problems with special emphasis on discrete techniques for ordinary and/or partial differential equations, and on problem formulation and solution. Prerequisites: MATH 3073 and either CS 1043 or CS 2503, or consent of instructor.

5283 (3 hours)

Applied Functional Analysis

Metric spaces. The fixed point theorem and its application to linear algebraic systems, differential equations, and integral equations. Normed spaces. Inner product spaces. Operators on abstract spaces. Approximation theory.

5353 (3 hours)

Discrete and Integral Transforms

Fourier, Laplace, Wavelet and other discrete and continuous transforms with applications to the analytic solution of partial differential equations, data compression, image processing and filtering.

5423 (3 hours)

Probability I

Introduction to probability theory. Probability spaces. Random variables. Distribution functions. Conditional probability and expectation. Introduction to stochastic processes including Markov chains. Prerequisite: MATH 2073 and STAT 4813, or permission of the instructor.

5503 (3 hours)

Stochastic Modeling and Simulation

Random number generation and stochastic simulation with applications. Prerequisite: STAT 4813 or consent of instructor.

5533 (3 hours)

Applied Regression

Methods for fitting deterministic models to data in the presence of noise. Least squares. Statistical analysis. Empirical response. Surface optimization in the presence of noise. Nonlinear models. Prerequisite: STAT 4813.

5553 (3 hours)

Statistical Learning

Statistical methods in supervised and unsupervised learning including classification and clustering, regularization and shrinkage for high dimensional data sets, non-linear models. Applications using these methods will be explored. Prerequisites: STAT 4813 and MATH 4123 or equivalents and permission of instructor.

5613 (3 hours)**Mathematical Biology**

Mathematical modeling of infectious diseases such as influenza, malaria, west nile virus, HIV and dengue fever using systems of differential equations. Linear stability analysis and bifurcation theory will be used to analyze these models. Computational methods fitting these

models to data sets will be introduced.

Prerequisites: MATH 3073 and permission of instructor.

5863 (3 hours)**Special Topics in Mathematics**

Prerequisite: Permission of instructor.

Statistics (STAT)**2013 (3 hours)****Introduction to Statistics**

A first course in statistics stressing statistical concepts and interpretation of results. Topics include data description, elementary probability, sampling, inference, simple regression, and correlation and analysis of variance. Prerequisite: Satisfactory completion of the University mathematics requirement. This course may not count for mathematics credit for some programs in the College of Engineering and Natural Sciences.

4813 (3 hours)**Statistical Methods for Scientists and Engineers**

Introduction to probability, random variables and distributions. Statistical inference including point and interval estimation and test of hypotheses. Elementary experimental design. Regression. and correlation. Prerequisite: MATH 2024.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Independent or group studies on special topics. Prerequisite: Permission.

Mechanical Engineering

Chair

John M. Henshaw

Professors

John M. Henshaw

Brenton McLaury

Ram S. Mohan

Siamack A. Shirazi

James R. Sorem, Jr.

Steven M. Tipton

Associate Professors

Jeremy Daily

Michael W. Keller

Assistant Professors

Todd Otanicar

Joshua Schultz

The Department of Mechanical Engineering's curriculum leads to a Bachelor of Science in Mechanical Engineering (B.S.M.E.) degree. The B. S. degree program in mechanical engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Aligned with the mission statements of the University found on page iii and the College of Engineering and Natural Sciences found on page 357, the mechanical engineering program educational objectives are to provide graduates with the ability to apply the knowledge required to pursue professional careers in a global marketplace; and to pursue advanced studies and continued professional development.

Mechanical engineering students, upon graduation, should demonstrate:

- A sound foundation in both the thermal and mechanical systems areas;
- The ability to design and create sophisticated engineering systems;
- The ability to work professionally in a globally diverse environment;
- An understanding of engineering systems and the attendant reasoning skills;
- Sharpened analytical and creative thinking skills;
- The ability to use modern experimental and data analysis techniques for mechanical engineering applications;
- Strong problem-solving skills including the use of appropriate analytical and computational approaches;
- Strong communication and teamwork skills; and
- A commitment to life-long learning needed to perform responsibly and ethically as an active engineering professional or other productive member of society.

**Bachelor of Science in Mechanical Engineering (B.S.M.E.)
Requirements**

Mathematical Sciences	14
MATH 2014, 2024, 2073, Calculus I, II, and III	
MATH 3073, Differential Equations	
Physical Sciences	15
CHEM 1013, 1011, General Chemistry I and Lab	
PHYS 2053, 2051, General Physics I and Lab	
PHYS 2063, 2061, General Physics II and Lab	
CHEM 1023, General Chemistry II <i>or</i> PHYS 2073, General Physics III	
Engineering Science	25
EE 2001, Basic Electrical Measurements Lab	
EE 2003, Electric Circuit Analysis	
ES 2013, Statics	
ES 2513, Engineering Applications Programming	
ES 3003, Introductory Fluid Mechanics	
ES 3023, Mechanics of Materials	
ES 3053, Thermodynamics	
ES 3073, Heat Transfer	
ES 3083, Engineering Economics	
Mechanical Engineering Professional Courses.....	40
ME 1212, Mechanical Engineering Graphics	
ME 1311, To Be a Mechanical Engineer	
ME 2023, Introduction to Dynamics	
ME 3014, Thermofluids	
ME 3034, Properties of Materials	
ME 3043, Energy Conversion	
ME 3053, Instrumentation and Measurements	
ME 3063, Manufacturing Processes	
ME 4024, Machine Dynamics	
ME 4054, System Dynamics and Controls	
ME 4293, Interdisciplinary Design Projects	
ME 4383, Mechanical Engineering Design	
Mechanical Engineering Elective (3 hours)	
Mechanical Engineering Professional Elective <i>or</i> Math Elective.....	3
If Math elective, one course beyond MATH 3073, Differential Equations	
Computational Elective (chosen from the following courses).....	3
ME 4033, CFD for Engineers	
ME 4093, Introduction to Finite Element Analysis	
MATH 4503, Introduction to Numerical Methods	
General Elective	3
Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*	
Humanities and social sciences electives (18 hours); selections limited to courses which qualify as humanities or social sciences electives as defined by ABET accreditation criteria and the Tulsa curriculum requirements. These courses must	

demonstrate depth of study in at least one area rather than be simply a series of introductory courses.

Total Hours127

*Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

A student must earn a grade point average of at least 2.0 in the major (the professional courses listed above) and overall to receive a degree in mechanical engineering. Foundation courses in mechanical engineering include ES 2513, MATH 2014, MATH 2024, PHYS 2053, and CHEM 1013. Refer to the table on page 360 of this *Bulletin* for specific GPA requirements.

Mechanical Engineering (ME)

1212 (2 hours)
Mechanical Engineering Graphics
Methods of graphical communication and computer aided drawing for engineers. Interpretation and preparation of engineering drawings to include orthographic projection, dimensioning, sectional and auxiliary views, and threads and fastener specifications. Four lecture-laboratory hours per week.

1311 (1 hour)
To Be a Mechanical Engineer
Introduction to the University, College, Department, and the mechanical engineering profession. Tours and guest speakers from industry and the University. Hands-on experience with several topics including design, engineering software, manufacturing, materials and cost analysis.

2023 (3 hours)
Introduction to Dynamics
Kinematics and kinetics of particles, systems of particles, and rigid bodies in plane motion. Forces and acceleration analysis using Newton's second law and energy and momentum methods. Prerequisite: ES 2013 or 2053.

3014 (4 hours)
Thermofluids
Theoretical and experimental analysis of the mechanics and thermodynamics of flowing fluids. Topics include pipe flow system design, external flow, turbomachinery, compressible flow, and design of experiments in thermofluids. Laboratory and design projects require technical report writing. Three hours

lecture and three hours laboratory per week. Prerequisite: ES 3003. Corequisite: ES 3073.

3034 (4 hours)
Properties of Materials
Mechanical and physical properties of engineering materials (metals, ceramics, and polymers) are explained through their structures. Topics include strength and ductility, crystal structures and defects, phases and microstructure, heat treatment, manufacturing processes, and materials economics. Design applications including materials failure analysis projects and technical report writing. Three hours lecture and three hours laboratory per week. Prerequisites: CHEM 1013, ES 2013.

3043 (3 hours)
Energy Conversion
Performance and design considerations of energy conversion systems including combustion. Design and performance problems involving steam, gas turbine, and combined cycle power plants, and reciprocating and rotary engines. Discussions of current topics in the energy industry. Prerequisites: CHEM 1013, ES 3053.

3053 (3 hours)
Instrumentation and Measurements
Basic concepts of measurement methods. Probability and statistics of finite and infinite data. Measurement uncertainty analysis. Static and dynamic characteristics of signals. Response to zero, first and second order measurement systems. Analog and digital instruments. Design and conduct experiments. Data acquisition and formal report writing

using modern engineering tools. Prerequisites: ES 2053 and ES 2013, or permission of instructor.

3063 (3 hours)

Manufacturing Processes

Basic understanding of manufacturing processes (casting, molding, machining, and others), machines, and various techniques for statistical quality control. Specific aspects of modeling of manufacturing processes, process analysis, and design for manufacturability, including process description, variables affecting the process, and means of controlling these variables. Manufacturing economics in a societal context. Prerequisite: ES 3023. Corequisites: ME 2023 and ME 3034, or permission of instructor.

4024 (4 hours)

Machine Dynamics

Kinematic and force analysis of machines and mechanisms. Mechanical vibrations, balancing, and critical speed. Dynamic measurement using transducers and data acquisition systems, analysis and interpretation of data, lab report writing. Introduction to multi-body simulation using modern engineering software. Written laboratory reports. Three hours lecture and three hours laboratory per week. Prerequisite: ME 2023.

4033 (3 hours)

CFD for Engineers

Introduction to the use of Computational Fluid Dynamics (CFD) in solving practical engineering problems. Theory of relevant physics and numerical methods and discussion of internal workings and limitations of commercial codes. Prerequisites: ES 3003, familiarity with a programming language such as C++, FORTRAN, or Visual Basic.

4043 (3 hours)

Automotive Design

Fundamentals of vehicle dynamics, tire performance, suspension and steering design, handling, safety, environmental impact, and electronics of the modern automobile. Fundamental analysis of principles and hands-on experience with an automotive project. Emphasis on engineering design, fabrication, testing, and teamwork. Projects may include engineering society student competition

vehicles. Prerequisite: Senior standing or permission of instructor.

4054 (4 hours)

System Dynamics and Controls

Dynamic modeling and feedback control of electrical, mechanical, fluid, and thermal systems. Classical control theory, Laplace transforms, time domain and s-plane analysis, stability theory, and root-locus and/or frequency-based design, transient response and sensitivity analysis. Usage of modern design/analysis tools such as MATLAB and Simulink. Three hours lecture and three hours laboratory per week. Prerequisites: MATH 3073; ME 3053 or PHYS 3112; ME 4024 or PHYS 4003.

4093 (3 hours)

Introduction to Finite Element Analysis

Solving boundary value problems common to engineering using the finite element method. Analysis of trusses, beams, heat transfer, and 2-D elasticity emphasized. Direct and variational approaches to FEA. A lab component includes using commercial finite element analysis software to solve engineering problems. Prerequisites: MATH 3073, ES 3023.

4103 (3 hours)

Vibration

Forced and free vibration of systems with one or more degrees of freedom. Vibration isolation and transmission applied to problems of rotating and reciprocating machinery. Design problems on reducing and controlling vibration. Prerequisite: ME 4024 or PHYS 4003.

4293 (3 hours)

Interdisciplinary Design Projects

Team projects requiring the design, fabrication, and testing of an actual prototype engineering system for a customer often from local industry. Conceptual and detail design, modern engineering tools, design tradeoffs, safety, project planning, budgeting, marketing, patenting, aesthetics, and manufacturing. Emphasis on teamwork, oral presentations of progress and written technical reports. Prerequisite: ME 4383 or EE 4043 or PHYS 3122 or permission of instructor.

4333 (3 hours)**Corrosion Engineering**

Degradation of engineering materials (primarily metals) due to their reaction with the environment. Fundamentals of corrosion thermodynamics and electrode kinetics. Survey of the many forms that corrosion can take. Emphasis on actual engineering failures caused by corrosion. Prerequisite: ME 3034 or ES 3013 or permission of instructor.

4343 (3 hours)**Gas Turbines**

Design and performance of stationary and propulsion gas turbines. Performance analysis of centrifugal and axial compressors and turbines. Prerequisites: ME 3014 and 3043, or permission of instructor.

4353 (3 hours)**Refrigeration and Air Conditioning**

Principles of vapor compression and absorption refrigeration, heat pumps, psychrometrics. Principles of thermal comfort and environmental aspects. Determination of heating and cooling loads. Air conditioning system design and analysis. Prerequisite: ME 3043.

4373 (3 hours)**Computer-Aided Design**

Use of computer-aided design software packages including systems for computer-aided drafting, solid modeling, finite element analysis,

and computer-aided manufacturing. The class culminates in a design project including fabrication of a physical prototype generated with numerically controlled machines. Prerequisites: ME 1212 and ME 4024, or permission of instructor.

4383 (3 hours)**Mechanical Engineering Design**

Application of engineering design process to the design of mechanical components, systems, and machines. Review and build upon mechanics and analytical skills. Various mechanical components such as springs, bolts, and bearings. Domestic and global design standards and modern engineering tools. Design projects, problem-solving techniques, report writing, ethics, patents, and entrepreneurship. Prerequisites: ES 2053 and ES 3023, or ME 4024.

4861, 4862, 4863 (1-3 hours)**Special Topics in Design**

Topics of current interest in mechanical engineering design. Prerequisite: Junior or senior standing or permission of instructor.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Independent or group studies on special topics. Prerequisite: Permission of instructor.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5043 (3 hours)**Gas Dynamics**

Fundamentals of compressible fluid flow. One-dimensional flows and normal shock waves. Introduction to two-dimensional supersonic flows including oblique shock waves, Prandtl-Meyer expansions, and the method of characteristics. Prerequisite: Permission of instructor.

5103 (3 hours)**Theoretical Vibration**

Multi-degree-of-freedom and continuous vibration systems. Introduction to finite element method and approximation methods

in vibration systems analysis. Prerequisite: Permission of instructor.

5123 (3 hours)**Acoustics**

The wave equation, plane wave reflection, transmission and excitation, sound sources, sound measurement and analysis. Prerequisite: Permission of instructor.

5143 (3 hours)**Theory of Elasticity**

Fundamental laws of the deformations of solids. Equilibrium, compatibility, and constitutive behavior are discussed. Numerical

methods and problem solutions are reviewed.
Prerequisite: Permission of instructor.

5223 (3 hours)**Fracture Mechanics**

Analysis of the behavior of materials containing flaws. Topics include the stress analysis of cracked bodies, crack tip plastic zones, energy and compliance methods, fracture toughness testing, crack opening displacement, microscopic aspects, and fatigue crack propagation. Prerequisite: Permission of instructor.

5283 (3 hours)**Mechanics of Composite Materials**

Stress-strain-temperature equations for orthotropic and anisotropic materials.

Transformation of stress-strain equations to different coordinate systems. Extension-shear coupling. Mechanics of fiber reinforced lamina. Assumptions and formulation of Laminated Plate Theory. Behavior of symmetric and unsymmetric laminates. Off axis testing. Stresses in laminates. Fracture theories. Free-edge effects and delamination. Prerequisite: Permission of instructor.

5543 (3 hours)**Computational Fluid Mechanics**

Formulation and numerical methods of solution of fluid dynamic problems in inviscid and viscous flows. Prerequisite: Permission of instructor.

McDougall School of Petroleum Engineering

Chair

Mohan Kelkar

Professors

Mohan Kelkar

Stefan Miska

Albert C. Reynolds, Jr.

Cem Sarica

Ovadia Shoham

Associate Professors

Randy Hazlett

Evren Ozbayoglu

Mauricio Prado

Mengjiao Yu

Hong-Quan (Holden) Zhang

Assistant Professors

Eduardo Pereyra

Mohammad Shahvali

Rami Younis

The McDougall School of Petroleum Engineering offers a curriculum leading to the Bachelor of Science in Petroleum Engineering (B.S.P.E.) degree. The B.S. degree program in petroleum engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The objective of the undergraduate program is to provide basic and applied knowledge in petroleum engineering, with equal emphasis on drilling and completion, production and reservoir areas using the fundamental building blocks of mathematics, physical and engineering sciences.

Program Educational Objectives:

- Our alumni become competent petroleum engineering professionals.
- Our alumni are able to analyze and design engineering systems, understand the associated uncertainties, and evaluate the economic, environmental, and social impacts.
- Our alumni are able to synthesize inputs from various sources, apply multidisciplinary fundamentals, and articulate technical concepts.

The basic 132-credit-hour curriculum is sufficiently flexible to allow a student to obtain a minor in geosciences, chemical engineering, or mechanical engineering, or an option to pursue graduate school with a few additional courses.

Bachelor of Science in Petroleum Engineering (B.S.P.E.) Requirements

Mathematical Sciences17

 MATH 2014, 2024, 2073, Calculus I, II, III

 MATH 3073, Differential Equations

 STAT 4813, Statistical Methods for Scientists and Engineers

Physical Sciences21

 CHEM 1013, 1011, General Chemistry I and Lab

 GEOL 1014, Physical Geology

 GEOL 3153, Sedimentary Rocks and Process

 GEOL 4063, Petroleum Geology

 PHYS 2053, 2063, General Physics I, II

 PHYS 2051, General Physics I Lab

Engineering Science15

 ES 2013, Statics

 ES 3003, Introductory Fluid Mechanics

 ES 3023, Mechanics of Materials

 ES 3053, Thermodynamics

 ES 3073, Heat Transfer

Petroleum Engineering Professional Courses46

 PE 1001, Introduction to Petroleum Engineering

 PE 2101, Rock and Fluid Properties Lab

 PE 2113, Rock Properties

 PE 2123, Fluid Properties

 PE 3003, Petroleum Economics and Property Evaluation

 PE 3013, Computer Applications in Petroleum Engineering

 PE 3023, Reservoir Engineering I

 PE 3041, Drilling Lab

 PE 3043, Drilling Engineering I

 PE 3073, Production Engineering I

 PE 3323, Unconventional Resources *or* PE 4183, Flow Assurance

 PE 4043, Drilling Engineering II

 PE 4053, Formation Evaluation

 PE 4063, Well Construction and Completion Design

 PE 4071, Production Engineering Lab

 PE 4073, Production Engineering II

 PE 4113, Reservoir Engineering II

 PE 4983, Capstone Design

Petroleum Engineering Electives3

 Restricted to 3000- or 4000-level petroleum engineering courses.

Technical Electives.....6

 Restricted to technical electives as approved by student’s advisor.

Humanities, Social Sciences, and English24

 ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions*

 Humanities and social sciences electives (18 hours); selections limited to courses that qualify as humanities or social sciences electives as defined by ABET accreditation criteria and the Tulsa curriculum requirements. These courses must demonstrate

depth of study in at least one area rather than be simply a series of introductory courses.

Total Hours132

*Some students will complete a modified series of courses; See Special Requirements beginning on page 360.

A student must earn a grade point average of 2.5 or higher in the major (all petroleum engineering courses) and 2.0 overall to be a candidate for a degree in petroleum engineering. Foundation courses in petroleum engineering include PE 1001, MATH 2014, MATH 2024, GEOL 1014, CHEM 1013, and PHYS 2053. Refer to the table on page 360 of this *Bulletin* for specific GPA requirements.

Petroleum Engineering (PE)

1001 (1 hour)

Introduction to Petroleum Engineering

Exposure to various disciplines within petroleum engineering including drilling, production, and reservoir engineering; contemporary issues in oil industry; professionalism and ethics in petroleum engineering.

2101 (1 hour)

Rock and Fluid Properties Lab

Measurements of fluid dynamical and interfacial properties, determination of single and multiphase fluid flow properties of rocks, capillary pressure curves and relative permeabilities. Corequisites: PE 2113, 2123.

2113 (3 hours)

Rock Properties

Fundamental properties of petroleum reservoir rocks: porosity, permeability, electrical and mechanical properties. Properties of rock containing multiple fluid saturations: relative permeability and capillary pressure. Prerequisites: PE 1001, GEOL 1014, MATH 2073, PHYS 2053 and 2051. Corequisites: MATH 3073, PE 2123, and PHYS 2063.

2123 (3 hours)

Fluid Properties

Phase behavior and PVT properties of dry, wet and retrograde condensate natural gases, as well as volatile and black oils; property estimation using correlations; flash and differential vaporization; introduction to gas-liquid equilibria; properties of oilfield water; gas hydrates and their prevention. Prerequisites: PE 1001, CHEM 1013, CHEM

1011, and MATH 2073. Corequisites: PE 2113 and MATH 3073.

3003 (3 hours)

Petroleum Economics and Property Evaluation

Time value of money; profitability measures; engineering analysis and prediction of cash flows of oil and gas properties; revenues, discounts, depreciation, depletion, and risk analysis; contemporary economic issues affecting oil industry. Prerequisite: Junior standing.

3013 (3 hours)

Computer Applications in Petroleum Engineering

Application of computers to solving various petroleum engineering problems. Use of EXCEL VBA programming methods to solve problems of interest to the petroleum industry, some of which require iterative solutions. Prerequisites: PE 2113, 2123. Corequisites: PE 3023, ES 3003.

3023 (3 hours)

Reservoir Engineering I

Volumetrics, determination of fluid contacts, gas reservoirs material balance, oil reservoirs material balance, diffusivity equation, inflow performance relationships, water influx, pressure transient analysis. Prerequisites: PE 2113, 2123, MATH 3073.

3041 (1 hour)

Drilling Lab

Drilling Simulator Lab: Controls, operations, data acquisition, hydraulics, BOP and well control, rate of penetration vs. drill variables.

Mud Lab: Measurements of drilling mud properties, mud additives, mud contaminants, mud liquid solids measurements. Prerequisite: PE 3043.

3043 (3 hours)

Drilling Engineering I

Rotary drilling systems, drilling fluids, drilling fluids hydraulics, drill bit hydraulics, cuttings transport, solids control, well control mechanics, overview of well drilling planning. Prerequisites: ES 3003, 3023, MATH 3073.

3073 (3 hours)

Production Engineering I

Inflow Performance relationships, single and multiphase flow in pipes, components of production system, basics of fluid separation and treatment, and analysis and optimization of production systems. Prerequisites: ES 3003, PE 3023.

3233 (3 hours)

Natural Gas Production Engineering

Vapor-liquid equilibrium, natural gas flow in wellbores and pipelines, networks, gas well unloading and solutions, metering, compressor design, special topics. Prerequisite: PE 3073.

3323 (3 hours)

Unconventional Resources

Importance and significance of unconventional resources to oil and gas production; petrophysical characteristics of unconventional resources including TOC and fractures, and importance of core and log data; hydraulic fracturing in horizontal wells; well test analysis of fractured wells; rate-time analysis to calculate reserves. Prerequisite: PE 3023.

3553 (3 hours)

Practice of Petroleum Engineering

Basic concepts of petroleum engineering for non-petroleum engineering students. Concepts in drilling, reservoir engineering, production engineering, formation evaluation and petroleum transactions. Prerequisite: EMGT 2013 with a grade of C or higher.

4043 (3 hours)

Drilling Engineering II

Directional drilling mechanics, drill bit mechanics, drillstring mechanics, pore and fracture pressure predictions, drilling problems, well planning. Prerequisites: PE 3013, 3043.

4053 (3 hours)

Formation Evaluation

Theory of various well logging methods (electrical, acoustic, and radioactive). Log interpretation techniques for lithology and hydrocarbon identification and calculation of reservoir parameters (porosity and saturation). Prerequisites: GEOL 3153; PE 2113, 2123.

4063 (3 hours)

Well Construction and Completion Design

Casing program, casing and tubing design, principles of cementing, completion added skin, well perforating, hydraulic fracturing, sand control and acidizing. Prerequisites: PE 3013, 3023, 3043.

4071 (1 hour)

Production Engineering Lab

Experiments on metering, multiphase flow in pipes and separation. Prerequisite: PE 3073.

4073 (3 hours)

Production Engineering II

Overview and application of common methods for artificially lifting oil wells, dewatering gas wells and boosting deepwater production; detailed theory, design and troubleshooting of the important artificial lift methods, including continuous gas lift, beam pumping, electrical submersible pumping and progressing cavity pumps. Prerequisite: PE 3013, 3073.

4113 (3 hours)

Reservoir Engineering II

Water flooding performance predictions for linear, 2D and layered systems with analytical methods and numerical reservoir simulation. Basics of tertiary recovery processes. Prerequisite: PE 3013, 3023.

4183 (3 hours)

Flow Assurance

Multi-disciplinary subject addressing hydrocarbon production from offshore fields, including design and operational issues. Major subjects to be covered include the prediction of paraffin deposition, hydrates, and remedial actions. Prerequisite: Junior standing.

4643 (3 hours)

Directional and Horizontal Drilling

Well trajectory design (2D and 3D), mechanics and design of bottom hole assemblies, down hole motors, orientation of deflection tools, well trajectory calculations based on survey

data, down-hole friction management - drag and torque calculations in 2D and 3D wells, buckling and maximum permissible doglegs. Prerequisite: PE 3043.

4663 (3 hours)

Well Stimulation

Origin and modeling of formation damage, hydraulic fracturing (vertical and horizontal fractures), modeling, design and production performance evaluation, acid reactions with reservoir minerals, sandstone matrix acidizing, acidizing of carbonates, acid additives. Prerequisite: PE 3023.

4863 (3 hours)

Special Topics in Petroleum Engineering

Prerequisites: Approved prerequisites by instructor.

4871, 4872, 4873 (1-3 hours)

Research in Petroleum Engineering

Individual and/or group study of selected problems. Oral and written reports may be required. Prerequisite: Permission of instructor.

4983 (3 hours)

Capstone Design

Student teams apply knowledge in the areas of geology, reservoir engineering, production, drilling and well completions to practical design problems based on real field data with all of the associated shortcomings and uncertainties. Preparation of oral and written technical presentations that propose economically feasible and environmentally sound strategies of optimizing the production and/or operating conditions for the given data set. Prerequisite: Last semester senior standing or consent of instructor.

4991, 4992, 4993 (1-3 hours)

Independent Study

Independent or group studies on special topics. Prerequisite: Permission of instructor.

Physics and Engineering Physics

Chair

George P. Miller

Professors

Roger N. Blais

George P. Miller

Associate Professors

Alexei Grigoriev

Parameswar Hari

Scott A. Holmstrom

Sanwu Wang

Applied Associate Professor

Jerome D. McCoy

Assistant Professor

Scott Noble

Instructors

Art Gibson

Allan Thomas

The Department of Physics and Engineering Physics offers programs leading to the Bachelor of Science (B.S.) and Bachelor of Arts (B.A.) degrees in physics, and to the Bachelor of Science in Engineering Physics (B.S.E.P.) degree. All programs provide a critical core understanding of physics and culminate in a two-semester senior thesis/research design project.

The B.A. degree in physics prescribes a thorough undergraduate physics curriculum while retaining flexibility to engage in a breadth of courses in the arts and sciences. Students are expected to show proficiency in a second language and to complete a concentration (at least 12 credit hours) in a field outside of their major. This degree option is particularly well suited as part of an education or pre-medical program.

The B.S. degree in physics provides a strong foundation in physics and mathematics in preparation for a technical or scientific career. Students pursuing the B.S. degree enroll in a more rigorous set of technical classes than for the B.A. degree. The B.S. degree requires two advanced special topics courses in physics. These courses have been incorporated to allow students flexibility in their junior and senior years to focus on specific fields of physics. The B.S. degree in physics provides a broad based technical major and is very adaptable for students in pre-professional programs (medical, law, etc.) and for education majors.

The B.S. degree program in engineering physics is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The goal of the engineering physics program is to provide the training in physics and engineering to prepare our students for careers in technical fields in industry, higher education, and for lifelong learning. Consistent with this goal, the educational objectives for the engineering physics program are to provide graduates with:

- The knowledge to successfully enter and complete programs of graduate study in one of several engineering fields as well as in physics;
- The skills to be able to function as productive engineering professionals in areas where traditional science and engineering disciplines overlap; and
- An awareness of the importance of continued professional self-development.

Both B.S. degrees can be part of a combined Bachelor of Science/Master of Science (B.S./M.S.) degree program. These are five year programs that, upon successful completion, results in the awarding of B.S. and M.S. degrees in physics or B.S.E.P. and M.S. degrees in engineering physics. Undergraduate students interested in this program must have completed at least 60 credit hours with a grade point average of at least 3.4 to apply. A typical schedule for a student in the 4+1 program can be obtained on the Department of Physics and Engineering Physics website, www.physics.utulsa.edu.

Teacher Certification

Students seeking secondary teacher certification in physics must also complete requirements for a second major in education described under the School of Urban Education beginning on page 128 of this *Bulletin*. In addition, teacher certification requires proficiency in a second language at the novice level (see page 131).

Minor in Physics

Students from all colleges may minor in physics. The requirements for the physics minor are PHYS 2053, 2051, 2063, 2061, 2073, 2071, and 3053; and at least six hours of physics at the 4000 level.

Physics Core

Physics	24
PHYS 1001, The World of Physics	
PHYS 2053, 2051, General Physics I and Lab	
PHYS 2063, 2061, General Physics II and Lab	
PHYS 2073, 2071, General Physics III and Lab	
PHYS 3053, Methods of Mathematical Physics in Physical Sciences	
PHYS 3112, Physics Instrumentation Laboratory	
PHYS 4003, Classical Mechanics	
PHYS 4033, Quantum Mechanics I	
Mathematical Sciences	17
MATH 2014, 2024, 2073, Calculus I, II and III	
MATH 3073, Differential Equations	
Math Elective, chosen from MATH 4123, 4133, 4143, or STAT 4813*	
Chemistry	4
CHEM 1013, 1011, General Chemistry I and Lab	
Computer Science	3
CS 2503, Scientific Programming	
Humanities, Social Sciences, and English	24
ENGL 1033, Exposition and Argumentation and 3003, Writing for the Professions**	
Humanities and social science electives (18 hours); selections limited to courses which qualify as humanities or social sciences electives as defined by ABET accreditation criteria and the Tulsa curriculum requirements. These courses must demonstrate depth of study in at least one area rather than be simply a series of introductory courses.	
Total Hours	72

*Students who elect the Electro-optical Communications Concentration or the Digital Communications Concentration must take STAT 4813, Statistical Methods for Scientists and Engineers for their Math Elective.

**Some students will complete a modified series of courses. See Special Requirements beginning on page 360.

Bachelor of Arts with Major in Physics

Physics Core.....72

Physics12

 PHYS 3043, Statistical and Thermal Physics

 PHYS 4063, Electricity and Magnetism

 PHYS 4983, Senior Thesis

 Physics Elective, 3 hours taken from PHYS 4073, 4503, 4523, *or* 4563

Foreign Language.....14

 Foreign language courses typically taken in a single language

Cultural Diversity and Gender Studies.....6

 Selected consistent with the B.A. program goals

General Electives.....20

 Selected with the approval of the student’s advisor

Total Hours124

Bachelor of Science with Major in Physics

Physics Core.....72

Physics20

 PHYS 3043, Statistical and Thermal Physics

 PHYS 3072 Senior Physics Laboratory

 PHYS 4043, Quantum Mechanics II

 PHYS 4063, Electricity and Magnetism

 PHYS 4983, Senior Thesis

 Physics Elective, 6 hours taken from PHYS 3133, 4073, 4503, 4523, *or* 4563

Electrical Engineering.....4

 EE 2001, Basic Electrical Measurements Lab

 EE 2003, Electric Circuit Analysis

General Electives.....30

 Selected with the approval of the student’s advisor

Total Hours126

Bachelor of Science in Engineering Physics (B.S.E.P.)

Physics Core.....72

Physics14

PHYS 3122, Instrumental Methods Laboratory

PHYS 4043, Quantum Mechanics II

PHYS 4063, Electricity and Magnetism

PHYS 4073, Electromagnetic Waves and Optics

PHYS 4102, 4201, Engineering Physics Project I and II

Engineering and Other Sciences20

CHEM 1023, 1021, General Chemistry II and Lab

EE 2001, Basic Electrical Measurements Lab

EE 2003, Electric Circuit Analysis

ES 2013, Statics

ES 3053, Thermodynamics

ES 3063, Solid State Electronic Devices

ME 2023, Introduction to Dynamics

Elective Engineering Courses.....18

Selected course sequences taken from the concentration areas listed below or with the approval of the Engineering Physics Review Committee

General Electives3

Selected with the approval of the student’s advisor.

Total Hours127

Engineering Physics Degree Concentration Areas

A. Electrical Engineering Option

- I. Electronics Concentration
 - EE 3143, Electronics I
 - EE 4043, 4041, Electronics II and Electronics Lab
 - EE 4123, Radio Frequency Engineering, EE 4143, VLSI Design, *or* EE 4243, Applied Electronics
 - Eight additional hours consistent with the electronics concentration and ABET program goals
- II. Electro-optical Communications Concentration
 - EE 3113, Signals and Linear Systems
 - EE 4073, Information and Communication Systems
 - EE 4273, Optical Networking
 - EE 4323, Electro-optics
 - Six additional hours consistent with the electro-optical concentration and ABET program goals

III. Digital Communications Concentration

EE 3113, Signals and Linear Systems

EE 4073, Information and Communication Systems

EE 4173, Computer Networks, EE 4323, Electro-optics, *or* EE 4523,
Radio Frequency Identification (RFID) Technology and Applications
EE 4213, Digital Signal Processing

Six additional hours consistent with the digital communications
concentration and ABET program goals

IV. Robotics Concentration

EE 2063, Introduction to Computer Organization and Microprocessors

EE 2163, Digital Systems Principles

EE 2161, Digital Design Laboratory

EE 3113, Signals and Linear Systems

EE 4053, Classical Control Theory and Applications

EE 4353/CS 4753, Robotics

Two additional hours consistent with the robotics concentration and
ABET program goals

B. Mechanical Engineering Option

I. Materials Processing Concentration

ES 3023, Mechanics of Materials

ME 3034, Properties of Materials

ME 4033, CFD for Engineering *or* ME 4093, Introduction to Finite
Element Analysis

ME 3063, Manufacturing Processes

ME 4333, Corrosion Engineering

Two additional hours consistent with the materials processing
concentration and ABET program goals

II. Instrumentation and Control Concentration

ME 3053, Instrumentation and Measurements

ME 4033, CFD for Engineering *or* ME 4093, Introduction to Finite
Element Analysis

ME 4054, System Dynamics and Controls

Eight additional hours consistent with the instrumentation and control
concentration and ABET program goals

III. Dynamical Systems Concentration

ME 4024, Machine Dynamics

ME 4033, CFD for Engineering *or* ME 4093, Introduction to Finite
Element Analysis

ME 4054, System Dynamics and Controls

ME 4103, Vibration (suggested)

Four additional hours consistent with the dynamical systems concentration
and ABET program goals

Physics and engineering physics majors must earn a grade point average of 2.0 or higher
in their major courses and overall to graduate.

Physics (PHYS)

1001 (1 hour)

The World of Physics

An introduction to the profession, culture, and discipline of physics. Primarily for those intending, or considering, a career in physics or engineering physics.

1003 (3 hours) Block 3

Liberal Art of Physics

Selected ideas drawn from classical and modern (relativity and quantum) physics and astronomy that have most influenced human history, culture, and economy, including the historical and cultural context in which the ideas developed. Emphasis on concepts common to all physical sciences. Not intended for premedical students.

1011 (1 hour)

Introductory Physics Laboratory I

Experiments in mechanics and wave motion. Non-Calculus based. Corequisite: PHYS 1013.

1013 (3 hours) Block 3

Introductory Physics I

Mechanics, and wave motion. Primarily for students not majoring in engineering or physical sciences. Prerequisites: MATH 1163 or equivalent.

1021 (1 hour)

Introductory Physics Laboratory II

Experiments in electricity, magnetism, and light. Corequisite: PHYS 1023.

1023 (3 hours)

Introductory Physics II

Electricity, magnetism, light, and modern physics. Continuation of PHYS 1013. Prerequisite: PHYS 1013.

1093 (3 hours) Block 3

Astronomy

Astronomy from the earth to the limits of the observable universe. Includes the history of astronomy and how the scientific method came to be applied to it; the laws of physics and how they apply to astronomy; descriptions of celestial objects; and scientific theories of the origin, and scientific theories of the origin, evolution, and operation of the universe.

2051 (1 hour)

General Physics I Laboratory

Experiments in mechanics and wave motion. Corequisite: PHYS 2053.

2053 (3 hours)

General Physics I

Mechanics, wave motion, and fluids. Primarily for science and engineering students. Prerequisite or corequisite: MATH 2014. Physics majors must take MATH 2014 as corequisite.

2061 (1 hour)

General Physics II Laboratory

Experiments in magnetism, electricity, and light. Prerequisite or corequisite: PHYS 2063.

2063 (3 hours)

General Physics II

Magnetism, electricity, and light. Continuation of PHYS 2053. Prerequisite: PHYS 2053. Corequisite: MATH 2024.

2071 (1 hour)

General Physics III Laboratory

Experiments in introductory relativity, quantum mechanics and nuclear physics. Prerequisite or corequisite: PHYS 2073.

2073 (3 hours)

General Physics III

Introduction to the theories and applications of atomic, nuclear, quantum, relativistic, and solid state physics with applications. Prerequisite: PHYS 2063. Corequisite: MATH 3073.

3043 (3 hours)

Statistical and Thermal Physics

Classical and statistical descriptions of thermodynamics. Essentials of probability and statistics, kinetic theory of gasses, statistical mechanics, temperature, equations of state, heat, internal energy, entropy, reversibility and distribution functions. Prerequisites: PHYS 2073 and MATH 3073.

3053 (3 hours)

Methods of Mathematical Physics in Physical Sciences

Broad introduction to analytical techniques used in upper-level physics courses. Various approaches to problems in optics and waves,

electromagnetism, quantum theory, thermodynamics, and statistical mechanics will be covered. Prerequisites: PHYS 2073 and MATH 3073, or permission of instructor.

3072 (2 hours)

Senior Physics Laboratory

A senior level course in experimental physics with experiments in optics, interferometry, atomic and laser physics. Prerequisites: PHYS 2073, 2071, 3112.

3112 (2 hours)

Physics Instrumentation Laboratory

Project and design in engineering physics. Stresses use of discrete and integrated circuitry in both digital and analog signal acquisition and processing. Construction of a project is included. Prerequisites for B.S. in physics and engineering physics: EE 2003, 2001. Recommended prerequisites for B.A. in Physics: EE 2003, 2001.

3122 (2 hours)

Instrumentation Methods Laboratory

Project and design sequence. Stresses design, evaluation, calibration, and application of electronic instrumentation incorporating appropriate engineering standards and multiple realistic constraints. Statistical techniques used for experimental design and analysis of data are developed. A variety of experiments applying modern data acquisition methods are included. Prerequisite: PHYS 3112.

3133 (3 hours)

Introduction to Musical Acoustics

The physics of vibrating acoustic components such as strings, bars, membranes and plates, coupled acoustic systems, propagation of sound in air (including radiation, transmission, absorption, and diffraction), and the production and reception of musical sounds. Prerequisite: PHYS 2053. Corequisite: MATH 3073 or PHYS 3053.

4003 (3 hours)

Classical Mechanics

Newtonian mechanics; linear oscillators, damped oscillators and resonance; variational calculus and Lagrangian and Hamiltonian mechanics; central force motion; collisions; rigid body dynamics; coupled oscillators; vibrating strings; computer applications. Prerequisites: PHYS 3053, MATH 3073.

4033 (3 hours)

Quantum Mechanics I

Introductory quantum mechanics. Solutions of the time-independent Schrodinger equation in three dimensions. Angular momentum and identical particles. Prerequisites: PHYS 3053, MATH 3073.

4043 (3 hours)

Quantum Mechanics II

Continuation of PHYS 4033. Approximation techniques and selected topics in modern physics such as atomic, solid state, nuclear and particle physics. Prerequisite: PHYS 4033.

4053 (3 hours)

Introduction to Material Science

Atomic and crystalline structure shapes the physical properties of materials and nanomaterials. Topics: atoms and interatomic bonds; crystal structure; structural defects; mechanical properties; phase diagrams; electrical properties and energy band structure; thermal properties, magnetic properties, optical properties; surfaces and interfaces; nanomaterials. Prerequisites: CHEM 1013, and either PHYS 3053 or CHEM 4023.

4063 (3 hours)

Electricity and Magnetism

Study of static electric fields in free space and in matter, and the analogous treatment of magnetic fields, leading to a discussion of electromagnetic induction and Maxwell's equations. Introduction to electromagnetic waves and radiation from moving charges. Prerequisite: PHYS 3053.

4073 (3 hours)

Electromagnetic Waves and Optics

Electromagnetic radiation, interaction of electromagnetic waves with matter, interference, diffraction, black body radiation, lasers and geometrical optics. Prerequisite: PHYS 4063.

4083 (3 hours)

Introduction to Nanoscience

Topics will vary, but may include quantum mechanics and statistical mechanics, microscopy in nanotechnology, nanochemistry, electrons in nanomaterials, molecular electronics, basic nano structured materials, and applications. Prerequisite: PHYS 3053 or permission of department chair.

4102 (2 hours)**Engineering Physics Project I**

The student, in consultation with a faculty advisor, selects a project or research topic that incorporates appropriate engineering standards and multiple realistic constraints. An engineering design presentation describing the project and proposing a solution must be submitted prior to completion of this course. Prerequisite: Senior standing in engineering physics or permission of physics chair.

4201 (1 hour)**Engineering Physics Project II**

Continuation of PHYS 4102. The plan of action developed in PHYS 4102 is executed, and a final report is submitted prior to completion of this course. Prerequisite: PHYS 4102.

4503 (3 hours)**Solid State Physics**

Crystal structure, Brillouin zones, crystal binding, imperfections in crystals, phonons, free electron Fermi gas, Wiedemann-Franz law, nearly free electrons, Bloch functions, Kronig-Penney model, concept of band gap, semiconductors and super-conductors, and magnetic materials. Prerequisite or corequisite: PHYS 2073.

4523 (3 hours)**Fundamentals of Photonics**

Classical and quantum description of light. Beam optics, photon optics, statistical optics, lasers, photon sources and detectors and non-linear optics. Prerequisites: PHYS 4063, 3053.

4563 (3 hours)**Astrophysics**

Investigates the physics of stellar evolution and cosmology. Particular attention will be paid to models of stellar life cycles including energy production and stellar nucleosynthesis, models of stellar corpses and supernovae, the Big Bang model and cosmic nucleosynthesis. Prerequisites: PHYS 3053, MATH 3073.

4861, 4863 (1-3 hours)**Special Topics****4871, 4872, 4873 (1-3 hours)****Research and Physics Literature**

Individual or group studies on special topics. Prerequisite: Permission of instructor.

4971, 4972, 4973 (1-3 hours)**Undergraduate Research**

Individual research projects under the supervision of a faculty member. May be repeated for credit. Prerequisite: Permission of instructor.

4981, 4982, 4983 (1-3 hours)**Senior Thesis**

Capstone individual research project to develop, advance and describe a system of current interest in physics. Coordinated by a physics faculty member. Thesis includes written and oral presentations of the completed work. Typically taken as 3 credits total over two semesters. Prerequisite: Senior standing in Physics (B.S. or B.A.) and permission of instructor.

4991, 4992, 4993 (1-3 hours)**Independent Study**

Prerequisite: Permission of instructor.

Approved Graduate Courses

The following graduate courses may be taken for undergraduate credit at the 5000 level with special permission from the department chair and instructor.

5003 (3 hours)**Advanced Classical Mechanics**

Covers elementary principles, variational principles and Lagrange's equations, two-body central problems, symmetries and conservation, and rigid body dynamics, the Hamiltonian equations of motion, Canonical transformation, Hamilton-Jacobi theory and introduction to nonlinear dynamics and chaos. Prerequisite: PHYS 4003 or equivalent.

5043 (3 hours)**Advanced Quantum Mechanics**

Postulates of quantum mechanics. The Schrödinger, Heisenberg, and interaction pictures. Theory of angular momentum. Symmetries: parity, reflection, lattice transformation, time-reversal. Prerequisite: PHYS 4043 or equivalent.

5063 (3 hours)**Electromagnetic Theory**

Maxwell's theory of electromagnetism. Boundary value problems in electrostatics, multipole moments, theory of dielectrics, magnetostatics, macroscopic electromagnetism. Prerequisite: PHYS 4063 or equivalent.

5083 (3 hours)**Statistical Mechanics**

Review of basic statistical mechanics: harmonic oscillator, Bose and Fermi gases interacting classical gas. Basic phenomenology of phase transitions, Ising model, exact solutions, mean-field theory. Thermal shape fluctuations of polymers and membranes. Dynamics of thermal fluctuations: detailed balance, Langevin equation for harmonic oscillator, diffusion, Monte Carlo calculations. Prerequisite: Permission of the department chair.

Certificate in Computer Science

Director

Roger L. Wainwright, Computer Science

This program prepares individuals trained in other fields to qualify for entry-level programming positions or to enhance their computing skills in an existing position.

Those admitted to this program must hold a bachelor's degree, have completed one year of college mathematics, and demonstrate the intellectual and analytical capacity to succeed in the computing profession. Certification requires that students complete 18 hours of accredited course work in computer science with a minimum 2.0 grade point average.

Course Requirements and Options

Required Core

CS 1043, Introduction to Programming and Problem-solving

CS 2003, Fundamentals of Algorithm and Computer Applications

CS 2123, Data Structures

Three approved computer science electives at the 3000 level or higher.

The College of Law

Professors

Chuck Adams
 Gary Allison
 Thomas Arnold
 Marianne Blair
 Barbara Bucholtz
 Robert Butkin
 Russell Christopher
 Lyn Entzeroth
 Janet Levit
 Vicki Limas
 Marla Mansfield
 Johnny Parker
 Tamara Piety
 Judith Royster
 Bob Spoo
 Ray Yasser
 Rex Zedalis

Clinical Professor

Winona Tanaka

Associate Professors

Sam Halabi
 Evelyn Hutchison
 William Rice

Associate Clinical Professor

Elizabeth McCormick

Assistant Professors

Stephen Galoob
 Karen Grundy
 Matt Lamkin
 Melissa Luttrell
 Melanie Nelson
 Gina Nerger

Assistant Clinical Professor

Anna Carpenter

The University of Tulsa College of Law is ranked as a top 100 law school in the nation by *U.S. News and World Report 2014 Best Graduate Schools* rankings. As one of the smallest law schools in the country, the College of Law offers six degree programs: the Juris Doctorate; an LL.M. degree in American Indian and Indigenous Law; an LL.M. degree in American Law for Foreign Lawyers; an LL.M. in Energy and Natural Resources Law; an online Master of Jurisprudence in Indian Law; and an online Master of Jurisprudence in Energy Law. In partnership with the Graduate School, the College of Law offers 10 joint J.D./master degrees, including J.D./M.A. degrees in anthropology, clinical psychology, computer Science, English, history and industrial psychology; J.D./M.B.A.; and J.D./M.S. degrees in biological sciences, finance, and geosciences.

The College of Law's J.D. program is comprehensive with a broad-based curriculum but also offers specialization opportunities in sustainable energy and resource law; Native American law; and health law. Students have opportunities to develop the professional skills needed for transitioning into the practice of law through the Boesche Legal Clinic's Immigrant Rights Project and Family Advocacy Clinic, the Legal Externship Program, the Judicial Externship Program, and the many career-building programs offered by the Professional Development Office. The *Tulsa Law Review* and the *Energy Law Journal* provide students with opportunities to publish articles demonstrating their legal reasoning and writing skills.

With an enrollment of about 320 students, the College of Law offers students opportunities for small class sizes, one-on-one interactions with professors, and individualized career counseling. Professors and students enjoy newly-renovated facilities that include state-of-the-art electronic classroom technology. Academic life is

enriched by the College of Law's many lectures, conferences, and programs which are open to the entire Tulsa community.

Mabee Legal Information Center (MLIC). The Mabee Legal Information Center (MLIC) holds more than 430,000 volumes and features a solid general legal collection as well as specialized collections in energy and environmental law and Native American law. All MLIC users have access to a vast number of law-related electronic resources, including LEXIS and WESTLAW. In addition, the MLIC houses two student journal offices, the Board of Advocates, and the Public Interest Board. The Utsey Family Native American Law Center is a beautiful and inviting reading room featuring Native American rare and primary resources and artwork representing all the Oklahoma tribes.

Boesche Legal Clinic. The Boesche Legal Clinic, through the Immigrant Rights Project and the Lobeck Taylor Family Advocacy Clinic, operates as a law firm. Students gain experience interviewing and counseling clients, negotiating with attorneys, planning cases, conducting factual investigations, drafting documents, examining and preparing witnesses, working with federal, state, and local government agencies, and providing written and oral advocacy and community education workshops.

The faculty and students of the Immigrant Rights Project represent non-citizens in immigration matters. Clients primarily include persons seeking asylum in the United States as a result of persecution or a fear of persecution in their home countries. The clinic may also represent non-citizen victims of domestic violence, unaccompanied non-citizen minors, or other non-citizens subject to removal and immigration detention.

In the Lobeck Taylor Family Advocacy Clinic, students serve the Tulsa community by providing representation that increases access to justice for low-income individuals and families. Clinic cases may involve legal issues related to domestic violence, housing, public benefits, consumer debt, or collateral challenges that stem from clients' involvement in the criminal justice system.

Price and Turpen Courtroom. The Price and Turpen Courtroom, designed for the future of legal instruction, includes a state-of-the art sound system, broadcast and recording capabilities, videoconferencing technology, and wireless network access. The room is a working courtroom and the venue for several Oklahoma civil and criminal cases each year.

Externships. The externship program offers 2L and 3L students the opportunity to earn academic credit while gaining practical client experience in the field. Students work in a legal setting under the direct supervision of a licensed attorney or judge while also taking a contemporaneous academic course which provides the opportunity for reflection and additional substantive knowledge. Externships provide students the opportunity to move from thinking like a lawyer in the classroom to thinking like a lawyer in a practice setting through work on real cases and legal issues. Opportunities exist in a broad range of civil and criminal litigation as well as transactional law. Placements include courts, law firms, government agencies, non-profit organizations and corporate legal departments. Full semester out-of-state placements are available during the summers and/or the last semester of the 3L year.

Sustainable Energy and Resources Law (SERL) Program. The SERL Program has three principal objectives: 1) offer comprehensive training in the fields of energy, environmental, and natural resources law; 2) produce nationally and internationally recognized scholarship and research that contributes to the public policy debate; and 3) facilitate communication among the many individuals, companies, organizations, and public bodies interested in energy, environmental and natural resources, with the

expectation that such communication will lead to more enlightened national and international laws and policies.

SERL accomplishes its objectives through an advanced curriculum; the scholarship and public presentations of the SERL faculty and members of the SERL Board of Visitors; publication of the *Energy Law Journal* in conjunction with the Energy Bar Association; publication of the *Environment, Energy, and Resources Law: The Year in Review* in conjunction with the ABA Section of Environment, Energy and Resources; and student-centered co-curricular activities in conjunction with the student-led Resources, Energy, and Environmental Law Society (REELS). SERL's curricular offerings include a Sustainable Energy and Resources Law Certificate for J.D. students, an LL.M. for Foreign Graduates, and an online Master of Jurisprudence in Energy Law designed primarily for non-lawyers. SERL's co-curricular activities include opportunities to work and network with members of its partner organizations, including the Energy Bar Association; the ABA Section of Environment, Energy and Resources; REELS; and the SERL Board of Visitors, which is comprised of energy, environmental and natural resources professionals in the midst of prestigious careers. For more information, visit the SERL website at www.utulsa.edu/serl.

Native American Law Center (NALC). The College of Law is located in Indian Country, within the original borders of the Muscogee (Creek) Nation. The Native American Law Center is the umbrella organization overseeing various aspects of TU's Indian law programs. The College of Law boasts several full-time faculty specializing in Indian law and offers a significant number of specialized Indian law courses including a certificate in Indian law. In addition, it has an LL.M. (Masters in Law) in American Indian and Indigenous Law and a Master of Jurisprudence in Indian Law for non-lawyers offered completely online. For more information, visit the NALC website at www.utulsa.edu/nalc. An active Native American Law Students' Association, as well as a variety of externship opportunities with local tribes, provides opportunities for student activities and interaction with the Indian community.

Undergraduate Curriculum

The College of Law offers a course for undergraduates that may count toward the requirements for the Tulsa curriculum.

Law (LAWU)

2013 (3 hours) Block 2

The Law, Ethics and Psychology of Responsibility

Course examines philosophical, psychological, and neuroscientific debates about the possibility of responsibility, with particular emphasis on how these debates apply to criminal and tort law.

Interdisciplinary Programs

Global Scholars Program

The Global Scholars program prepares students to engage the most pressing questions facing the world today: How will population growth, migration, and urbanization impact the world? What changes will we see in computation, robotics, biotechnology, and nanotechnology? What will it take to support a global population of some 9.3 billion by the middle of the century? What does it mean that the world is more economically interdependent?

Global Scholars is a selective program for freshmen and sophomores from all undergraduate colleges. Scholars take three interdisciplinary block courses that explore the big questions currently affecting the world. One of the block courses is a faculty-led summer course abroad. Global Scholars also study a foreign language, spend a semester abroad, and examine global issues from the perspective of their particular major.

Students admitted to the Global Scholars Program are chosen by a committee made up of faculty from all undergraduate colleges. Students are selected based on academic credentials, letters of recommendation, and essays describing experience and/or interest in global issues. Application deadlines are in the spring of each year. Visit <http://www.utulsa.edu/globalscholars> for more information.

Tulsa University Faculty of Community Medicine

The Laureate Institute for Brain Research (LIBR) is a state-of-the-art psychiatric hospital and research center funded by the W. K. Warren Foundation. Currently, five of the principal investigators at LIBR hold faculty appointments in the Tulsa University Faculty of Community Medicine.

Assistant Professors

Patrick Bellgowan

Justin Feinstein

Paul Hamilton

Jonathan Savitz

W. Kyle Simmons

The Tulsa University Faculty of Community Medicine (TUFCM) is an academic unit within The University of Tulsa that supports the Tulsa School of Community Medicine (TSCM). The TSCM is a medical school which is being established under joint sponsorship of The University of Tulsa and the University of Oklahoma. It will draw faculty from both institutions with medical science faculty largely resident at The University of Tulsa (TUFCM) and clinical faculty predominantly drawn from the University of Oklahoma.

The TUFCM is under the administrative authority of the Dean of the Graduate School and Vice Provost for Research of The University of Tulsa. Faculty in TUFCM will teach in the TSCM, and in that role their curriculum and supervision will be under the dean of the medical school.

It is expected that the new medical school will accept its first students in the fall of 2015. The school is being established to address the need for more medical doctors in Oklahoma, especially ones who work in family practice, internal medicine and pediatrics in underserved rural and urban communities. The school will follow a curriculum that integrates medical science and clinical experience required to earn the M.D. degree. The details of accreditation, curriculum, facilities and staffing are under accelerated development at the time of publication of this *Bulletin*.

Resident Faculty

- Ackerman, Jane E., Associate Professor of Religion, B.A., University of Missouri-Columbia, M.A., University of Kentucky, Ph.D., University of Kentucky
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TU Map Key

- ★ = Shuttle Stops
- 📞 = Emergency Phone/Strobe
- 🚲 = Bicycle Racks
- 🅇 = Parking Lots

Hurricane Express Information

- ■ = Blue Shuttle
M-F, 7 a.m. to 5:30 p.m.
- ■ = Gold Shuttle
M-F, 7 a.m. to 5:30 p.m.
- = Inner Campus Loop
M-F, 8 a.m. to 10 p.m.

Shuttle routes and times
subject to change.



1. Albert Plaza
2. Alexander Health Center
3. Allen Chapman Activity Center
4. Annex East
5. Annex West
6. Bayless Plaza
7. Boesche Legal Clinic
8. Center for Global Education
9. Central Plant
10. Chapman Commons
11. Chapman Hall
12. Child Development Center
13. Collins Hall/Shaw Alumni Center
14. Dietler Commons
15. Fisher Hall East
16. Harwell Hall
17. Helmerich Hall
18. Housing/Academics (under construction)
19. Jackson Commons
20. John Rogers Hall
21. Kendall Hall
22. Keplinger Hall
23. Lorton Hall

24. Lorton Performance Center
25. Mabee Legal Information Center
26. Mary K. Chapman Center
27. McClure Hall
28. McFarlin Library
29. Music Annex
30. Oliphant Hall
31. Phillips Hall
32. Rayzor Hall
33. Rogers Fountain
34. Samson Plaza
35. Sharp Chapel
36. Sharp Plaza
37. Stephenson Hall
38. Tyrrell Hall
39. University School
40. Westby Hall
41. Zink Hall
- STUDENT HOUSING**
42. Brown Village Apartments
43. Pat Case Dining Center
44. Fisher Hall South
45. Fisher Hall West Suites
46. House 1: Kappa Alpha Theta Sorority
47. House 2: Delta Gamma Sorority

48. House 3: Kappa Kappa Gamma Sorority
49. House 4: Kappa Delta Sorority
50. House 5: 5th Place House
51. House 6: Delta Delta Delta Sorority
52. House 7: Chi Omega Sorority
53. John Mabee Hall
54. Kappa Alpha Fraternity
55. Kappa Sigma Fraternity
56. LaFortune House
57. Lambda Chi Alpha Fraternity
58. Lorton Village Apartments
59. Lottie Jane Mabee Hall
60. Mayo Village Apartments
61. Mayo Village Student Activities Center
62. Norman Village Apartments & Clubhouse
63. Pi Kappa Alpha Fraternity
64. Seventh Street House
65. Sigma Chi Fraternity
66. University Square Apartments - South
67. University Square Apartments - West

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68. Athletic Ticket Office
69. Case Athletic Complex
70. Case Tennis Center
71. Chapman Plaza

72. Collins Family Softball Complex
 73. Collins Fitness Center
 74. H.A. Chapman Stadium
 75. Hardesty Sports & Recreation Complex
 76. Harwell Field
 77. Harwell Tennis Courts
 78. Hurricane Athletic Building
 79. Hurricane Track/Soccer Stadium
 80. Mabee Gym/Athletics
 81. Multi-Purpose Field
 82. Reynolds Center
 83. Skelly Field
 84. Soccer Practice Field
 85. Siegfried Plaza
 86. Thomas Plaza
- CAMPUS MINISTRIES**
87. Baptist Student Center
 88. Hillel House
 89. Muslim Student Association Prayer House
 90. Newman Center
 91. United Ministries Center
 92. Wesley Foundation

Get Golden



Make a difference.

TU is the university of choice for students who want to make a difference in the world and are eager to get started. Our students engage in groundbreaking cross-disciplinary studies that allow them to tailor academic plans to meet specific interests, while being mentored by faculty who are leaders in their fields.

Living. Learning.

Our students enjoy a vibrant residential campus environment highlighted by more than 160 student organizations, extensive on-campus amenities, and exciting athletic teams that compete in Division 1A athletics. Whatever your interests, you'll be able to find an activity that complements your studies and your personality.

Small classes. Big Impact.

We have 3,000+ undergraduates and an average class size of 21 students. Students enjoy a low student-to-faculty ratio of 11-to-1, and more than 90 different majors are available in arts and sciences, business, engineering and natural sciences.

Great facilities.

New or updated amenities include:

- Student fitness center
- State-of-the-art classrooms
- Premium apartments
- Outstanding recreational options

Our graduates work.

89% of 2010-2011 TU graduates were employed or attending graduate school soon after graduation.

For more information or to schedule a campus visit, contact the Office of Admission at 918-631-2307, or toll free at 1-800-331-3050.
E-mail: admission@utulsa.edu

W W W . U T U L S A . E D U



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