



The University of Tulsa

2000-2002 Undergraduate Bulletin

2000 Academic Calendar

Fall Term 2000

August 18, Friday, 9:00 a.m.	Residence Halls Open
August 21, Monday, 8:00 a.m.	Classes Begin
September 4, Monday	Labor Day Holiday
November 20, Monday	Thanksgiving Break Begins
November 27, Monday	Classes Resume
December 4, Monday	Last Day of Classes
December 5-6, Tuesday-Wednesday	Dead Period
December 7-8, 11-14	Final Examinations
December 16, Saturday	December Commencement
December 18, Monday, 12:00 noon	Residence Halls Close

Spring Term 2001

January 5, Friday, 9:00 a.m.	Residence Halls Open
January 8, Monday, 8:00 a.m.	Classes Begin
January 15, Monday	Martin Luther King Day (no classes)
March 5-9, Monday-Friday	Spring Break
March 12, Monday	Classes Resume
April 23, Monday	Last Day of Classes
April 24-25, Tuesday-Wednesday	Dead Period
April 26-27, 30, May 1-3	Final Examinations
May 5, Saturday	Commencement
May 7, Monday, 12:00 noon	Residence Halls Close

2001 Academic Calendar

Fall Term 2001

August 17, Friday, 9:00 a.m.	Residence Halls Open
August 20, Monday, 8:00 a.m.	Classes Begin
September 3, Monday	Labor Day Holiday
November 19, Monday	Thanksgiving Break Begins
November 26, Monday	Classes Resume
December 3, Monday	Last Day of Classes
December 4-5, Tuesday-Wednesday	Dead Period
December 6-7, 10-13	Final Examinations
December 15, Saturday	December Commencement
December 17, Monday, 12:00 noon	Residence Halls Close

Spring Term 2002

January 11, Friday, 9:00 a.m.	Residence Halls Open
January 14, Monday, 8:00 a.m.	Classes Begin
January 21, Monday	Martin Luther King Day (no classes)
March 11-15, Monday-Friday	Spring Break
March 18, Monday	Classes Resume
April 29, Monday	Last Day of Classes
April 30-May 1, Tuesday-Wednesday	Dead Period
May 2-3, 6-9	Final Examinations
May 11, Saturday	Commencement
May 13, Monday, 12:00 noon	Residence Halls Close

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Accreditation

The University of Tulsa is a fully accredited doctoral-degree-granting institution and is on the approved lists of the North Central Association of Colleges and Secondary Schools, the National Council for the Accreditation of Teacher Education, and the Oklahoma State Regents for Higher Education. The university is also an Institutional Associate of the American Association of Community and Junior Colleges. The various colleges and professional schools are accredited by their own professional agencies as well.

The College of Arts and Sciences is a member of the American Association of Colleges for Teacher Education. Programs for the preparation of teachers and school service personnel are accredited by the Oklahoma State Board of Education and by the National Council for the Accreditation of Teacher Education.

The School of Music is a member of the National Association of Schools of Music. The curriculum in deaf education is accredited by the Council on Education of the Deaf, and the master's program in speech-language pathology is accredited by the American Speech-Language Pathology and Audiology Association. The Ph.D. program in clinical psychology is accredited by the American Psychological Association.

The College of Business Administration is a member of the American Assembly of Collegiate Schools of Business. The School of Nursing is approved by the Oklahoma Board of Nurse Registration and Nursing Education and is accredited by the National League for Nursing. The athletic training program is accredited by the Committee for the Accreditation of Allied Health Education Programs, which is a subcommittee of the American Medical Association.

The College of Engineering and Natural Sciences is an institutional member of the American Society for Engineering Education. The curricula in chemical engineering, electrical engineering, engineering physics, mechanical engineering, and petroleum engineering are accredited by the Accreditation Board for Engineering and Technology. The B.S. in computer science is accredited by the Computer Science Accreditation Commission (CSAC) of the Computing Sciences Accreditation Board (CSAB), a specialized accrediting body recognized by the Council for Higher Education Accreditation (CHEA), and the chemistry curriculum is approved by the American Chemical Society.

The College of Law courses are approved by the American Bar Association and the Association of American Law Schools.

Any current or prospective student may obtain or review a copy of the university's accreditation Self-Study Report to the North Central Association of Colleges and Secondary Schools in the Reserve Room of McFarlin Library.

University Administration

Board of Trustees

The University of Tulsa's Board of Trustees consists of 32 active members and 16 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 can serve more than two consecutive terms, but a trustee who has served two consecutive terms is eligible for reelection after one year off. The president of the Alumni Board serves during the one-year term of that office. Both active and honorary 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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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 and service in a changing world; and
- acquire the skills and appetite for lifelong learning.

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 IA. Its current undergraduate enrollment is about 2,900, with about 1,300 students in its graduate programs and law.

The university campus lies two miles east of downtown Tulsa, a handsome, vigorous, southwestern city in a metropolitan area of over half a million people, set among the hills and lakes of northeastern Oklahoma's "Green Country." From the beginning, Tulsa's founders—who developed a thriving economy based on petroleum, 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, introducing them to the pleasures and responsibilities of the life of the mind in a challenging world, 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, a member of the National Academy of Engineering, 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 residential campus that fosters a sense of community and integrates curricular and extracurricular life; and
- abundant opportunities for students to undertake community service, internships, and study abroad; to participate in substantive research, often as early as the freshman year; and to study and reflect in ways that foster intellectual, spiritual, and moral growth.

In its rich urban environment, The University of Tulsa offers a diversity of learning experiences, a balance between career preparation and liberal education, teaching, and research, and endeavors to instill in its students an understanding that stature as an individual and value as a member of society depend upon continual learning.

History of The University of Tulsa

The University of Tulsa—a private, non-sectarian institution that is formally related to the Presbyterian Church (USA) by a mutually articulated covenant with the Synod of the Sun—has its roots in the Presbyterian School for Indian Girls, a small boarding school in Muskogee, Indian Territory, that was founded in 1882. 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 name that 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. In 1966, James A. Chapman died and bequeathed the university \$34 million in endowment. In the 1970s, the Dimensions for a New Decade campaign raised an additional \$43 million. By the end of February 2000, the university had endowment funds and funds held in trust of \$702,117,000. The university currently comprises the Henry Kendall College of Arts and Sciences, the College of Business Administration, the College of Engineering and Natural Sciences, the College of Law, the Graduate School, and the Division of Continuing Education.

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 College of Business Administration, 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, three U.S. territories, and 68 foreign countries—became increasingly diverse.

During the 1980s, the university established an innovative humanities-based general curriculum—called the Tulsa Curriculum—that emphasizes the development of core skills in writing, mathematics, and foreign languages; established 10 endowed chairs for faculty; 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. 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. These trends have continued into the present, advancing the university's reputation for excellence.

As the university continues into its second century, it has just officially completed the most ambitious capital campaign in its history, the New Century Campaign. Construction of the new Donald W. Reynolds Center—a \$28 million, 138,000-square-foot multi-use 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. Also, construction on a \$7.5 million Legal Information Center for the College of Law was completed in January 2000. Both of these facilities are heavily used by both the university and larger communities.

In addition, the university is continuing to maintain and strengthen its academic standards by internationalizing its programs, developing substantive undergraduate research opportunities, and seeking distinction in several critical fields, including environmental studies and research—the better to equip its students for life in a rapidly changing world. Also, elevating the university's regional accolades for excellence to national prominence is a primary focus of the present administration. As a mark of this success, since 1995, TU students have won nine National Science Foundation Awards, three Truman Scholarships, three Fulbright Grants, two British Marshall Scholarships (the first of which was the first awarded in Oklahoma in 27 years), and 19 Goldwater Scholarships.

Admission and Registration

The University of Tulsa seeks undergraduate students for whom reasonable academic success in a challenging curriculum can be predicted. Admissibility is determined by the careful evaluation of all required credentials under the auspices of an admission committee headed by the Dean of Admission.

The university has a rolling admission policy, reviewing completed application files as they are received and notifying applicants of the admission decision on an ongoing basis. The Office of Admission also adheres to the national Candidate's Reply Date of May 1, which means that acceptances of offers of admission and financial aid are not required before that date.

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.

Note: See the Housing and Dining section for residency requirements that apply to undergraduate students, on page 36 of this bulletin.

Degree-Seeking Status

Freshman Application Procedures

Graduating high school seniors or adults who have a high school diploma or GED but have never attended college should apply for admission as freshmen. High School graduates who have only attended a non-accredited postsecondary institution should follow freshman procedures.

Under Early Action, freshman applicants may be reviewed on the basis of sixth semester transcripts if they apply before December 1. Admission decisions will be rendered by December 20. Early Action applicants are not required to make an early decision.

The Office of Admission reserves the right to verify the authenticity of any documents or statements provided as part of the application.

Application for Admission. The freshman application form must be signed and submitted to the Office of Admission well before the beginning of the term in which enrollment is sought.

Application may be made either on-line at <http://www.utulsa.edu/admission> or via a traditional form. The University of Tulsa also accepts and gives equal consideration to the Common Application and Collegelink or EXPAN applications, in lieu of its own form. The non-refundable processing fee is \$25. (In addition to the undergraduate application for admission, applicants to the Athletic Training program and the Law and Society Accelerated Law program must submit separate forms in applying for admission to these programs.)

Transcripts. Applicants may be considered for admission on the basis of official sixth semester high school transcripts. Seventh semester transcripts may be requested by the admission committee. A final official high school transcript must be submitted upon graduation.

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 and an official transcript of any course work completed in high school.

Transcripts of college credit earned concurrently with high school credit should be submitted after completion of the course work but are not required for an admission decision.

Recommendation. The application of any freshman who has graduated within two years prior to the intended term of enrollment must include a high school counselor’s recommendation.

SAT or ACT. Freshmen applicants must provide scores from the Scholastic Assessment Test (SAT) of the College Board or the American College Test (ACT). 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. However, the admission committee may request scores from college entrance exams if deemed necessary to evaluate the applicant’s qualifications.

PRA Verification Form. Permanent Resident Aliens (PRA’s) must submit a completed PRA Status Verification Form, which may be obtained from the Office of Admission, or a signed copy of their “green card.”

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

Freshman Selection

Freshman admission decisions are based on academic performance in a college preparatory curriculum and scores on college entrance examinations, as well as recommendations, extracurricular activities, and accomplishments that demonstrate special talent, leadership, perseverance, and initiative. Class rank in the top 25% is preferred, and test scores of freshman applicants typically fall at levels considerably above national norms.

The university strongly encourages applicants to undertake a rigorous academic curriculum that includes at least 16 or more Carnegie units of college preparatory work. Honors, Advanced Placement, and International Baccalaureate classes are strongly encouraged and are viewed favorably by the admission committee.

High School Course Recommendations

	College of Arts & Sciences	College of Business Administration	College of Engineering & Natural Sciences
College preparatory English	4	4	4
College preparatory social studies	3	3	3
College preparatory mathematics (Algebra I, II, Geometry, Trig, Calculus)	3-4	4	4-5
College preparatory science	3	3-4	4
Same foreign language	2-4	2-4	2
Fine arts (music, art, theatre)	1/2	1/2	1/2
Computer (or competency)	1/2	1/2	1/2

Under special circumstances, the admission committee reserves the right to offer admission with conditions to freshman applicants whose academic records demonstrate academic promise, with additional monitoring. Students admitted with conditions may have enrollment limitations and are referred to the Center for Student Academic Support for academic support services.

Transfer Application Procedures

Students who wish to pursue a degree or certificate program at The University of Tulsa and have previously attended other accredited colleges or universities must apply as transfer students. This includes students who were enrolled at The University of Tulsa prior to attending another institution.

The Office of Admission reserves the right to verify the authenticity of any documents or statements provided as part of the application.

Application for Admission. The transfer application form 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://www.utulsa.edu/admission> or via a traditional form. The University of Tulsa also accepts and gives equal consideration to the Common Application and Collegelink or EXPAN applications in lieu of its own form. The non-refundable processing fee is \$25. (In addition to the undergraduate application for admission, applicants to the Athletic Training program and the School of Nursing must submit separate forms in applying for admission to these programs.)

Transcripts. Transfer students must submit final official transcripts from high school and each accredited college attended. Transfer students with 60 or more semester hours of college credit are not required to submit high school transcripts unless requested to do so by the admission committee.

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 and an official transcript of any course work completed in high school.

SAT or ACT. Transfer students must provide scores from the Scholastic Assessment Test (SAT) of the College Board or the American College Test (ACT) unless they have completed fewer than 30 semester hours of college work or are 25 years of age or older. However, scores from college entrance exams may be required 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.

PRA Verification Form. Permanent Resident Aliens (PRA's) must submit a completed PRA Status Verification Form, which may be obtained from the Office of Admission or a signed copy of their "green card."

Interview. Personal interviews are strongly recommended for all transfer applicants.

Transfer Selection

Transfer applicants must be in good standing at the institution last attended. A 2.5 all-college cumulative grade point average is recommended for consideration for admission. High school transcripts and college entrance exams are weighed, as are motivation, perseverance, and accomplishments. Every effort is made to evaluate the strength of the application by taking into consideration all aspects of the student's particular academic history.

Admission of applicants who have courses in progress at another institution is made provisionally, pending receipt of final official transcripts.

Transfer students who show academic promise but whose overall academic records do not fit conventional norms for admission may be offered admission on probation. Credit hours may be limited, and the student would 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 for academic support services.

Students who have been dismissed or suspended from any college or university may apply for admission to The University of Tulsa after one calendar year has elapsed.

Transfer students who were previously dismissed from The University of Tulsa must petition the dean of their college of enrollment before being considered by the admission committee. 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.

Note: Students who have withdrawn from The University of Tulsa and have not attended another institution do not need to reapply for undergraduate admission. They may be readmitted as continuing students under the same status previously accorded them by their college advising office. Approval from the dean will be required for continuing students who have been dismissed.

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 Academic Practices and Policies for further clarification of the awarding of credit.

Non-Degree-Seeking Status

A student whose educational goal is not to seek a degree from The University of Tulsa may be considered for admission as a non-degree-seeking student under the following circumstances:

- attending The University of Tulsa on a temporary basis while pursuing a program of study at another institution;
- fulfilling graduate school prerequisites beyond a bachelor's degree;
- seeking courses for personal and/or professional development but not following a degree plan;
- enrolling in high school and The University of Tulsa courses concurrently through the Early Entry Program;
- auditing a course at The University of Tulsa.

Non-Degree-Seeking Application Procedures

Application for Admission. An abbreviated Non-Degree-Seeking Application Form must be submitted to the Office of Admission, along with a non-refundable, one time \$25.00 processing fee. The application form is available from the Office of Admission. Early Entry students must reapply each semester of attendance.

Transcripts. Submit an official transcript from the institution most recently attended or, in the case of candidates who hold undergraduate degrees, an official transcript from the degree-granting institution. Collegiate advisors may require additional transcripts for evaluation purposes or to verify prerequisites.

PRA Status Verification Form. Permanent Resident Aliens (PRA's) must submit a completed form, which may be obtained from the Office of Admission, and submit a copy of their "green card."

Additional Documentation for Early Entry Candidates

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

ACT/SAT Scores. Submit official score reports of ACT, SAT, PACT, or PSAT, if available.

Non-Degree-Seeking Admission

A maximum of 15 semester hours earned as a non-degree-seeking student may be applied toward a degree or a certificate program at The University of Tulsa. Exceptions to the 15-hour limit must be approved by the appropriate college dean.

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. Students who have been dismissed or suspended from any college or university cannot be considered for admission as a non-degree-seeking student until one calendar year has elapsed.

To become degree-seeking, a non-degree-seeking student must reapply for admission through the Office of Admission.

International Student Admission

Students from other nations should write to the International Student Services Office well in advance of the time they wish to enter the university. Deadlines for the receipt of applications from international students vary, so at least six months should be allowed between the date a student applies for admission and the start of the term in which he or she wishes to begin.

Students must complete an application for admission, pay the application processing fee, and supply certified copies of original transcripts for all secondary and post-secondary work, with certified English translations. 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. 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 either freshmen or sophomores will live and dine on campus. (See Freshman and Sophomore Students Housing and Dining Requirement, p. 36.)

English Institute Admission

Admission to the English Institute for International Students (EIIS) is open to all students who wish to improve English proficiency. Those interested in attending the Institute should contact the English Institute for International Students directly, then submit an application and the \$25 processing fee. Eight-week sessions are available year round. EIIS students are eligible for University housing.

Admission to the English Institute for International Students does not guarantee a student admission to academic programs at the university.

Registration

Entering students will be instructed by the collegiate advising office regarding enrollment following admission to the university. Continuing students should initiate enrollment with their collegiate dean's office. Late enrollments will be accepted for two weeks after the beginning of the term. A fee of \$20.00 will be charged for any enrollment processed after the last day of the first week of the term.

A student must be enrolled in at least 12 semester hours of work to be considered a full-time student.

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 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 usually complete the Tulsa Curriculum before beginning the junior year. The University Curriculum Committee exercises oversight of the Tulsa Curriculum.

I. 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 courses. Students in Arts and Sciences take Exposition and Argumentation (Engl 1033) and a First Seminar (FS 1973). Students in Business Administration and 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 1003) as a prerequisite for English 1033. Qualified students in all colleges may take Advanced Exposition and Argumentation (Engl 1063) with the permission of the Director of the Writing Program. Total: 6-9 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 (1093), Basic Calculus (1103), or Pre-Calculus Mathematics (1164). (Students who have completed four years of college preparatory mathematics should consult the advising office of the college they enter to determine if they have already met this requirement.) Total: 0-4 hours.

In addition, bachelor of science students, including candidates for designated B.S. degrees such as the B.S.B.A. and the B.S.E.E., must complete, place out of, or show proficiency in either of the following:

1. Mathematics through Calculus I (Math 2014), or Basic Calculus (Math 1103), or another comparable sequence certified by the University Curriculum Committee; or,
2. A minimum of two courses beyond Computer Science 1013 or Management Information Systems 1023 in either computer science or areas in which computer usage is central.

Total: 0-10 hours.

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.

II. 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 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, 12 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 cours-

es 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 is a four-year course of study consisting of 21 hours of academic credit. The program engages students in a critical examination of ideas that have shaped the modern world. The program involves students in small classes and individual tutorials with professors who are committed to providing undergraduate students with challenging academic experiences. It culminates in the senior year with students designing and executing individual research projects.

The Honors Program reflects and reinforces the educational values and course requirements of the Tulsa Curriculum. All Honors Program students complete a core curriculum that consists of one course each semester during the first and second years. Honors Program classes are not scheduled the first semester of the junior year in order to encourage study abroad and/or allow for specific work in students' majors. In the second semester of the junior year, students in the Honors Program are part of a colloquium that introduces them to contemporary intellectual arguments and current research strategies. There is one colloquium for Arts and Sciences students, one for Engineering and Natural Sciences students, and one for Business Administration students. Honors Program students may major in any academic discipline offered by the university.

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

The Honors House Residence Hall is available to students in the program. This option provides the opportunity to live with other students who share the academic challenges of the Honors Program.

An Honors Program scholarship is given annually to each participant.

Honor Societies

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 is a privilege, not a right. Students cannot apply for membership. However, students and advisors should note that because of the terms of the national charter the chapter seeks students who have demonstrated competence by college-level work in both mathematics and a foreign language, and that in general it looks for students who have shown both ambition and breadth in their selection of courses.

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 10 percent of the senior class in each college and no more than five percent of the junior class.

Study Abroad

The university provides an ever-expanding variety of opportunities for students to travel and study abroad for TU credit, either individually or with a group of students under the direction of University of Tulsa faculty. At last count, 18 faculty-led programs are in place, with more planned for the near future. Programs are sponsored by every TU college and take place all over the world. Call the Study Abroad office or visit the Study Abroad page on the university's website for an updated list of TU's programs.

For students wanting a study abroad experience not available at TU, the university also provides access to a rich variety of study abroad and internship programs in almost every discipline, both through other universities and through organizations such as the American Institute for Foreign Study and the Council on International Education.

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 can also function unofficially as a minor. Certificates also can be earned by individuals who already possess one or more college degrees or who have otherwise been admitted as part-time students.

Most certificate programs require completion of 18 to 24 credit hours, although one program carries a 45-hour requirement. Certificates may be earned in the following fields: accounting, African American studies, business administration, classics, computer science, finance, international studies, journalism studies, legal thought, political philosophy, management information systems, museum studies, Native American studies, political philosophy, visual studies, and women's studies. For additional information, see pages 68, 180, 219 and 303 of this bulletin.

Air Force ROTC

By agreement with the United States Air Force, eligible full-time students at The University of Tulsa may participate in Air Force ROTC and receive an officer's commission in the Air Force upon graduation. They are commissioned through the Air Force ROTC program at OSU-Tulsa but remain students at TU and graduate from TU.

For information about eligibility, scholarships, requirements, curriculum, and other details, see the Air Force ROTC information on page 304 of this bulletin.

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, according to circumstances.

At the end of the sixth week of the fall and spring semesters, instructors have the opportunity to report the names of students who are doing unsatisfactory work to the collegiate advising office; the advising office 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 Student Advocacy Center.

Academic Standing

Academic Advising

All students are advised through the college to which they are admitted. 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. 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 pages).

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

Credit By Examination

Advanced Placement Examinations. The university participates in the College Entrance Examination Board's program of advanced placement examinations, which allows high school students to earn college credit. The tests are administered by the Educational Testing Service through high schools, where specific information may be obtained from counselors.

Proficiency Examinations. A program of advanced standing gives exceptionally qualified students a chance to earn credit by proficiency examinations. Application should be made at the Office of Registration and Records. In order to be eligible to receive University of Tulsa credit through this program, students must be currently enrolled at the University.

College Level Examination Program (CLEP). The University of Tulsa offers students an opportunity to earn credit through subject examinations. Students should inquire in their collegiate dean's office regarding which CLEP tests our students are required to take, where the tests may be taken, and specific restrictions on the acceptance of CLEP credit.

International Baccalaureate Program (IB). Advanced standing credit may be awarded for work taken through the International Baccalaureate program. Determination of credit rests with the office of the dean of each college.

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.

Course work taken from accredited institutions and in which a grade of C or better was earned is generally transferable. Exceptions and policy on the transfer of collegiate requirements must be approved by the college dean. Credit is not granted for correspondence work. Junior 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 regular (fall or 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. The decision to remove a student from academic probation can be made only by the dean of the college in which the student is enrolled at that moment. 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.

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 GPA of 1.0 or less for any academic year are subject to dismissal even if they have not previously been on probation.

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 remain 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, and if a waiver of the calendar year provision is sought, the permission of both the readmitting dean and the provost is required. 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 music (B.M.), bachelor of music education (B.M.E.), bachelor of science (B.S.), and the 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.), chemical engineering (B.S.C.E.), chemistry (B.S.C.), computer science (B.S.C.S.), deaf education (B.S.D.E.), education (B.S.E.) electrical engineering (B.S.E.E.), geosciences (B.S.G.S.), exercise and sports science (B.S.E.S.S.), international business and language (B.S.I.B.L.), mechanical engineering (B.S.M.E.), nursing (B.S.N.), petroleum engineering (B.P.E.), and speech pathology (B.S.S.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 include:

Minimum Hours Required. All majors in the College of Arts and Sciences must complete a minimum of 124 credit hours to graduate. In the College of Business Administration, the credit hour minimum is 126; and in the College of Engineering and Natural Sciences, the minimum ranges between 127 and 133 credit hours, depending on the major. For further information on these minimums, consult the appropriate collegiate advising office.

The last 45 semester hours in any degree program (i.e., a 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 can 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.

Any student pursuing a double major who also wishes to earn a second degree must complete an additional 30 hours beyond the total required for a single degree.

Recreation Course Credit. In the College of Arts and Sciences and in the College of Engineering and Natural Sciences no credit is accepted toward the degree for recreation courses. In the College of Business Administration, no more than six semester hours in activity or theory of recreation courses may be applied toward a degree. Consult the collegiate dean's office for specific restrictions in each college.

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. Application for a degree must then be made to 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.

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 go ahead and take part in the May commencement. Any exceptions to this policy must be cleared by the Registrar and the Dean of Students.

Teacher Education. Programs in teacher education are offered through the College of Arts and Sciences and are coordinated by the Teacher Education Council. Programs are offered in early childhood and elementary education, middle school education (language arts, mathematics, science, social studies), secondary education (English, mathematics, science, social studies), and elementary-secondary education (art, deaf education, foreign language, music). In addition, advanced programs are available in school counseling and speech-language pathology at the graduate level.

The university is approved by the Oklahoma Commission on Teacher Preparation to recommend for licensure/certification those students who complete approved curricula in teacher education. Students seeking licensure/certification should consult the certification advisor in the School of Education and refer to teacher education requirements in the School of Education section of this bulletin.

The university and its teacher education programs are accredited by the National Council for Accreditation of Teacher Education (NCATE).

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. The diplomas of students who participate in The University of Tulsa Honors Program bear the designation “Honors Program.”

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), WF (withdrew failing), and AU (audit). N (no grade recorded) is used for administrative purposes.

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 Registration and Records.

The incomplete grade will remain on the student record for no more than one year. After that time, unless the course work is either completed or the instructor is able to assign a grade otherwise consistent with the student's level of work during the term of a course (factoring in the student's failure to complete all course requirements), the Office of Registration and Records 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 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 (e.g., a request must be made within the first six days of a six-week term, etc.). 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, divide the total number of semester hours attempted at The University of Tulsa into the total number of grade points earned at The University of Tulsa, except: (1) omit from this calculation hours earned with a grade of P and grades designated as I, AU, or N and (2) use in the grade point calculation only the last grade earned when a course has been repeated. Courses repeated at another institution do not count for University of Tulsa credit without prior approval from the appropriate collegiate dean.

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.

Students who are absent for personal reasons (e.g., illness, a death in the family, etc.) are covered by a policy found on pages E 56-57 of the Student Handbook, which specifies that they should report to the Center for Student Academic Support to obtain a formal excuse.

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 Registration and Records.

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.

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. Mere nonattendance of classes does not constitute official withdrawal.

Medical/Psychological Withdrawals. Students who withdraw for medical or psychological reasons should submit a written request to the Vice President for Enrollment and Student Services. A request for a medical or psychological withdrawal must be supported by a letter from the attending physician or mental health practitioner. Withdrawals for psychological reasons must include a 90-day absence from the university. Readmission to the university is contingent upon submission of a letter from the attending physician or mental health practitioner indicating that the student is able to attend classes. Requests for readmission and supporting documentation for the student's return to the university must be received by the Vice President for Enrollment and Student Services at least 30 days before readmission.

Non-Voluntary Withdrawal. Students may be required to withdraw from the university for habitual delinquency (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 has been 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.

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) or WF (withdrew failing) will be recorded. The grade to be given will be indicative of the student's accomplishment in the course up to the date of withdrawal.

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.

Transfer of Records

The Office of Registration and Records will forward official transcripts to other institutions or prospective employers upon the request of students. No transcript is 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.

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.

Financial Information Tuition, Fees, Housing and Dining

Tuition and Fees

Figures in this section are for the Fall 2000 semester and are subject to change without notice at the beginning of any semester or summer term.

Application fee, paid once and nonrefundable..... \$ 25.00
 Tuition deposit (required at first registration, forfeited for non-attendance).....100.00

Tuition rate

Tuition per semester full-time students.....6,865.00
 Tuition per semester hour for part-time students taking 1-11 hours
 including audit courses.....492.00
 Overload tuition for students for each semester hour over 18 hours.....492.00

Prices quoted for travel courses are in addition to the above tuition charge. Students enrolling in study abroad courses should consult the Study Abroad Office or the program instructors concerning the amounts and due dates for payment of additional study abroad and travel expenses.

International Student Services fees:

Fall semester, nonrefundable.....100.00
 Spring semester, nonrefundable100.00
 Summer term, nonrefundable50.00
 Student Association Fee-Full time.....40.00
 Student Association Fee-Part time.....3.00 per hour
 Student Services Fee-one time charge for first time enrollees.....275.00

Special Fees

Art laboratory supply fees, nonrefundable, will vary by course.....15.00-50.00
 Chemistry laboratory fee, nonrefundable.....10.00
 Hospitalization insurance, required of all international students on temporary visas.
 Applications for health insurance coverage must be filed with the director of International Student Services. International students are required to participate in the University International Student Group Health Insurance Program, or provide proof of equivalent insurance coverage. Proof of insurance must be submitted to the director of International Student Services. Rates are estimated, based on 1999-2000.

	Plan 1 (U.S. Students only)	Plan 2 (U.S. or International Students)
Single student - annual rate	\$ 371.00	\$ 408.00
Family Plan - annual rate (spouse) (includes maternity)	1233.00	1356.00
Family Plan - annual rate Children	819.00	901.00
Student, spouse, and children	2421.00	2663.00

Professional liability insurance, for students in clinical nursing, medical records, and communication disorders courses, per year.....17.50

Placement fee.....	5.00
Proficiency examination credit, per semester hour, paid before the examination and nonrefundable.....	10.00
College Level Examination Program	
Each subject examination.....	45.00
With foreign language.....	55.00
Private music instruction	
Non-music major or music major beyond degree requirements - per credit hour charge in addition to undergraduate tuition charge per credit hour.....	150.00
Parking permits, required of all students, faculty, and staff (part-time, full-time, day, and evening) who park motor vehicles on University property:	
Automobiles - per year.....	30.00
Motorcycles and mopeds - per year.....	10.00
ID card replacement.....	5.00

Payment of Accounts

It is each University of Tulsa 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 your expenses, you may either pay the balance in full or participate in the university's Monthly Payment Plan. Please call the University of Tulsa Business Office (918-631-2600) for 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.

If the account remains unpaid, the university reserves the right to suspend or withdraw students from classes; withhold grades, transcripts, and diplomas; deny future enrollments; and require that the student move from student housing.

The university accepts Visa, MasterCard, or Discover credit cards.

Refunds

If a student withdraws from courses at the university, he or 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. The university shall follow federally mandated refund schedules as they apply. Non-attendance of classes does not constitute an official withdrawal or drop.

Refund Schedule-Continuing Students

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%

*Refund schedule is subject to change.

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.

Housing and Dining Services

Because retention research shows that living on campus can greatly enhance a student's educational experience and success, all freshman and sophomore students are required to live in university housing and participate in an approved dining program unless they live within a 20-mile radius of the campus and reside with either their parent(s) or their legal guardian(s). This policy applies to freshmen and sophomores, including transfer students and international students who have earned fewer than 60 credit hours at another institution at the time of license initiation. It does not apply to married students and students over 21 years of age. Requests for waiver of this policy should be directed in writing to the Housing and Dining Services office.

The university maintains Lottie Jane Mabee Hall for approximately 231 women, John Mabee Hall for about 244 men, Twin Towers Residence Hall for about 366 women and men in suites, LaFortune House for 102 men and women students in suites (renovation just completed), Twin South Hall for 180 freshmen men and women, and more than 300 nearby apartment units for upper class undergraduate students and graduate, law, married, and nontraditional students. Students in the university's Honors Program have the option of living in the Honors House, a facility housing 20 men and 21 women on separate floors.

Each room has computer network access, phone and voice-mail, and expanded basic cable connection. The halls feature designated study lounges and recreational/social areas. Recreational areas include video games, exercise equipment and televisions. Each residence hall provides laundry and vending areas. A reception desk is staffed in each hall to provide information and checkout recreational equipment to residents.

Live-in professional residence directors and graduate 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. The Residence Hall Association (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 residents.

Themed Communities

TU offers several themed-living options for those wanting to immerse themselves in a community based on a specific interest. Whether your thing is academics, the outdoors, or developing an international perspective, you will find a living option geared to your interests.

First Year Residential Experience Hall (Twin South). This environment promotes a smooth transition into college life through collaborative learning and faculty support. A team of faculty members provides Twin South residents ongoing mentoring throughout the year. Social opportunities include weekly events and annual retreats. For example, on Sunday evenings in Twin South include dinner, a hall meeting, and a movie. On Friday afternoons, residents are invited to socialize in the courtyard for F.A.C. (Friday Afternoon Club.)

Residents also have bi-monthly opportunities to attend faculty-sponsored programs and Study Supporters workshops, as well as various educational programs and events.

LaFortune House. This newly renovated building is our residential college with a live-in faculty member and is designed for the academically focused student. Activities include dinner discussion series, visits to art museums, and attendance at plays and sporting events. The resident faculty don provides informal advising and assistance with academic programs and social activities, and some courses are taught in LaFortune's classrooms. LaFortune House also offers special in-house dining with continental breakfasts and three dinners each week. For other meals, residents may take advantage of the regular dining opportunities offered through the Twin Towers and ACAC eateries.

Women in Science and Engineering (WISE) (Lottie Jane Mabee). The Women in Science and Engineering floor is designed for women who want a living environment that complements their academic and professional goals. Residents receive support from faculty mentors and floor staff. In addition to mentoring, residents can take advantage of student-faculty dinners, study groups, and specially planned social events.

Global Exploration and Language House (Twin East). This coeducational learning environment fosters dialog among different cultures. Suite-style living makes it easy for students with different languages and cultural backgrounds to come together and share perspectives. Residents take part in extra- and co-curricular activities including concerts, plays, and art exhibits. Frequent faculty dinners and programs challenge students to explore global perspectives and changes with respect to political, religious, economic and cultural differences. International films are featured weekly in the floor lounge.

e-floor (computers and technology) (John Mabee). This floor is designed for residents with career goals or strong interest in modern technology, computing, Web design, and management information systems. A graduate student assigned to this area helps provide programs and opportunities to challenge residents' boundaries and stimulate technological advancement.

Outdoor Adventure (Twin West). Students whose interests include outdoor adventures such as camping, hiking, climbing, kayaking and rafting will enjoy this living environment. Residents have many opportunities throughout the year for outdoor adventures. Student leaders of TU Trek, TU's outdoors program, provide periodic clinics to enhance or develop skills such as rock climbing, rappelling, kayak rolls, and first aid.

Honors House. The Honors Program at The University of Tulsa is a special option for exceptionally accomplished students. Honors students may reside in Honors House, which holds up to 40 students. The Honors House promotes intellectual and social activity through lectures and other programs, including frequent theme movie nights via VCR and cable. A baby grand piano gets regular use, as does the honors library, both in the main living room. Study facilities and computer equipment support residents' academic work. Living is co-ed, by floor. There is a community bathroom on each floor. Residence life staff members live in the Honors House to advise and coordinate house activities, and there are many opportunities for residents to get involved in house government, Residence Hall Association, and special housing committees.

Dining facilities for residential students are provided in the Twin Towers. Meal plans are required for all residents. Food service agreements are available to all students, even for those not residing in university housing.

Six of the nine national sororities on campus maintain houses, each of which accommodates from 26 to 32 women. Sorority housemothers, who live on the premises, advise the res-

idents in sorority housing. Living quarters of the sorority houses are owned by the university. Resident students pledging sororities with vacancies must live in the sorority house according to sorority/university policy.

Each of the seven national fraternity houses on campus has sleeping quarters, and some provide meal service.

Application/Policy Information

Students living in the residence halls, sororities, or apartments are subject to the terms and conditions of the Residence Living Handbook, Apartment Guidebook, and the Housing and Dining Services agreement. The residence hall/dining application/license extends for the entire academic year. If you sign an application/license, you must use agreed upon services for that academic year unless you either graduate during the year or the university requires you to leave for reasons described in the agreement. The same rules apply to the food service portion of agreement.

The housing agreement permits residence from the opening date of housing for the semester to 24 hours after withdrawal from the university or to the published closing date of the housing system for each semester. Residence between academic semesters and during the summer term is not covered by the basic agreement. For residence halls and apartments, a \$200.00 one time deposit must accompany each application as a reservation fee. In accordance with student recommendations, this total fee (\$200.00) remains on deposit for four years or until a student leaves housing system, eliminating the need for additional housing deposits in future years. One hundred fifty dollars (\$150.00) of this serves as an application fee that is not refundable under any circumstances if cancellation occurs prior to occupancy.

The housing/dining reservation fee is refundable in whole or in part to the applicant if there are no damages or cleaning assessments necessary when the student leaves the system. The apartment deposit is forfeited entirely if the applicant cancels the agreement prior to actual occupancy.

Refunds are not available on housing or food service application/licenses. In extreme cases you may apply to the Housing and Dining Services Office for an exception to the no-refund policy.

All appeals must be submitted in writing with appropriate documentation. The university may suspend participation in dining programs or remove students from housing for failure to pay charges when due or if disciplinary problems arise.

Food service agreements provide a variety of options, as described below and tremendous flexibility for student schedules. The dining service agreement provides food from the published beginning date of the dining program (usually just before the beginning of undergraduate classes) to the last day of 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 Twin Towers Hall, (918) 631-2514. Following is the recommended cost schedule for the residence halls and dining for the 2000-01 academic year.

2000-01 Housing Costs

(Prices are subject to change without notice.)

Twin South, and Honors House rates per person. Each student will be assessed a \$15 per semester non-refundable Residence Hall Association fee.

	<i>Semester</i>	<i>Academic Year</i>
Double Room	\$1,280.00	\$2,560.00
Double Room as Single (space permitting)	\$2,095.00	\$4,190.00

Twin Towers rates per person. Each student will be assessed a \$15 per semester non-refundable Residence Hall Association fee.

Double Room	\$1,350.00	\$2,700.00
Single Room	\$1,750.00	\$3,500.00
Double Room as Single (space permitting)	\$2,120.00	\$4,240.00

LaFortune Hall rates per person. Newly renovated for Fall 2000. Each student will be assessed a \$15 per semester non-refundable Residence Hall Association fee.

Double Room	\$1,430.00	\$2,860.00
Double Room as Single (space permitting)	\$2,250.00	\$4,500.00

John Mabee and Lottie Jane Mabee Hall rates per person.* Each student will be assessed a \$15 per semester non-refundable Residence Hall Association fee.

*Residents of suites occupied doubly will be charged the single room rate per person. Residents occupying a suite privately will be charged \$2,225 per semester.

Double Room	\$1,355.00	\$2,710.00
Single Room	\$1,755.00	\$3,510.00
Double Room as Single (space permitting)	\$2,175.00	\$4,350.00

Sorority rates per person (no RHA fees).

Double Room	\$1,325.00	\$2,650.00
Double Room as Single (space permitting)	\$2,105.00	\$4,210.00

Apartment Housing. Apartments are available for upper class undergraduate students and a limited number of returning graduate, law, married, and nontraditional students. Apartment offerings for 2000-01 include 150 recently constructed, all electric, market quality one- and two-bedroom units (University Square). Other units feature ceiling fans, high security steel doors, and dead bolt locks in most locations. Utility arrangements vary, with water, sewer, and trash collection included in the rent. Rates vary by complex, depending upon amenities. (Rent payments are due the first of each semester and are payable at the Business Office in McClure Hall. The approximate lease period is August 16, 2000-May 4, 2001. Annual arrangements are available. Charges are for the entire application/license period selected and are assessed by semester. Prices are subject to change without notice.)**University Square Apartment Costs.** Rental prices range from one-bedrooms at \$2553.00 to two-bedroom at \$3392.00 a semester. For non-family members rent charges increase if the number of occupants exceeds the number of bedrooms. Students are responsi-

ble for electric utility costs through Public Service Company. Telephone service is arranged through the university and included in the semester rental rate.

2000-01 Costs for Other Apartments. On E. 10th Street, between Delaware and Skelly Stadium; and between 5th Place and South Gary Place and Harvard.

	<i>Semester</i>
Efficiencies (all locations)	1280.00
1 Bedroom	1827.00
2 Bedroom	2216.00
1 Bedroom (bills paid)	1974.00

Tenants are responsible for the electrical utility service in all units except those at 1011 S. College and 1015 S. College, where all utilities are furnished. Telephone service through Southwestern Bell is the responsibility of the resident. Expanded basic cable television service is also included in the rent. Premium services are available through Cox Cable.

All university apartment residents (junior class level and above) agree to contract for a debit card program, dedicated to dining only, in the amount of \$100 per semester.

Dining Options*

Transferability allows students to dine in the Allen Chapman Activity Center, as well as the Twin Towers Dining Hall.

	<i>Semester</i>	<i>Academic Year</i>
19 Meals per week (includes transferability)	\$1,360.00	\$2,720.00
15 Meals per week (includes transferability)	\$1,300.00	\$2,600.00
10 Meals per week (includes transferability)	\$1,250.00	\$2,500.00
19 Meals per week (without transferability)	\$1,125.00	\$2,250.00
15 Meals per week (without transferability)	\$1,075.00	\$2,150.00
10 Meals per week (without transferability)	\$990.00	\$1,980.00
<i>Combination</i>		
(10 meals without + \$300 dining points/semester)	\$1,290.00	\$2,580.00

Recommended Plan: 19 meals per week, without transferability, plus \$500.00 per semester on the Hurricane Gold ID Account. (“Hurricane Gold” dollars can be used for meals or snacks outside of regular meal hours, books, vending machines, copiers, laundry machines, late night snacks, etc.)

*Meal plans are required for all residence hall students.

“Hurricane Gold” Account Dining and Extra Convenience. All students may wish to consider using the declining balance debit card feature (Hurricane Gold Account) of the campus identification/service one card to complement dining arrangements and for convenience and safety in transacting other campus business. Placing money on deposit with the university activates the account. Each time the card is used (in the bookstore, at snack or dining locations, in vending or laundry machines, copiers, etc.) the sale is deducted. Any remaining balance is refundable at year-end or withdrawal from the university. Commuter students are welcome in all student-dining areas on a cash or debit card basis. Faculty and staff may also deposit funds to their Hurricane Gold accounts to be used in any campus dining facility or wherever Hurricane Gold is accepted. Hurricane Gold is not limited to traditional meal plan

“transferability” hours and can be used any time a facility is open.

Hurricane Gold is easy to buy. Simply prepay \$25 or more on your account at the ID/Parking Center, located in Twin Towers Hall, the Dining Services Office, located in the administrative offices on the second floor of Allen Chapman Activity Center, or the Business Office in McClure Hall. Smaller dollar increments can be added to your account through the (DART) automated terminal in McFarlin Library, John Rogers, and Allen Chapman Activity Center. Purchases will be deducted from this amount as they are made upon the presentation of your ID card. When you reach your Gold limit, purchase more. (See Identification Cards and Hurricane Gold account policies, page 62, for additional information on related policies.)

Catering. Dining Services handles all on-campus catering for faculty, staff, students, and guests and can provide a wide variety of menus and ideas for receptions, meals, or special organizational functions. Call the office well in advance to assure the greatest possible flexibility in meeting the program requirements.

Freshman and Sophomore Housing/Dining Requirement

Because of the fundamental role that on-campus living plays in helping students succeed, TU requires all freshmen and sophomores to live in university housing and to participate in a dining program unless they live within a 20-mile radius of the campus and reside with their parent(s) or legal guardian(s). This policy applies to traditional freshmen and sophomores, international students and transfer students who have earned less than 60 credit hours at another institution at the time of license initiation. It does not apply to married students or to students over 21 years of age. Requests for waiver of this policy should be directed to the Office of Housing and Dining Services, The University of Tulsa, 600 South College Avenue, Tulsa, Oklahoma 74104-3189.

Residence Hall Visitation

Maximum visitation hours in each living facility have been established by student referendum and approved by the administration. Individual hall governments may change these hours within the approved limits by hall referendums conducted during the fall semester each year. All visitors must be accompanied by escorts in the living areas of the halls. Specific visitation hours for each residence hall are listed in the Residence Living Handbook.

Fraternity and sorority organizations also establish specified visiting hours within the approved time frames.

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 an individual officially checks out and turns in appropriate keys. Specific meal plans are not offered during the summer due to student class and work schedule demands. Students are encouraged to open 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 processor. All information contained in these credentials is held in strict confidence. Also, 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 Student Financial Services Office 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 these: (1) the availability of funds; (2) the student's analyzed financial need; and (3) the student's classification and record of academic performance. Applicants desiring first consideration should submit their applications as soon after January 1 as possible to assure timely consideration for the next academic year.

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 along with the University of Tulsa Financial Aid Application are required for consideration for scholarship, grant, loan, and part-time employment opportunities. Recipients of aid must reapply each year to be considered for continuation in the following year. Timely submission of the FAFSA and all information requested is required to receive the largest award possible. 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. A full-time undergraduate student is one who carries at least 12 semester hours for credit during the semester.

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 can-

cel awards at any time if students fail to maintain satisfactory academic progress or minimum course-load requirements.

Students receiving university grants and/or university funds are required to maintain at least a 2.0 cumulative grade point average. Scholarship recipients usually are required to maintain a 3.0 cumulative grade point average and full-time enrollment.

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 are not eligible for financial assistance for the next academic period. If extenuating circumstances interfere or prevent students from meeting these requirements, they should consult the Office of Student Financial Services immediately.

Satisfactory Progress Requirements

Satisfactory academic progress is defined as the reasonable progression toward the successful completion of degree requirements. It involves the annual review, during the summer, of the number of hours successfully completed in a program and the cumulative grade point average earned by a financial aid recipient while attending The University of Tulsa. In accordance with federal regulation, the four components of the University of Tulsa policy are described below.

I. Satisfactory Completion of Semester Hours. Transcripts are reviewed once yearly. Each student is required to pass a minimum of 75% of their credit hours enrolled during the preceding fall and spring semesters at the university (rounded to the next higher number). The number of hours required is based on the number of hours for which a student initially received financial assistance at the beginning of each fall and spring semester (prior to the refund period). Drops and withdrawals from classes will count toward the accumulated deficient hours for a student.

II. Grade Point Average Requirement. Each undergraduate must meet a 2.0 cumulative grade point average standard to remain eligible for assistance.

III. Deficient Hours Accumulated. To complete a degree plan in the specified number of hours allowed, a student cannot accumulate a significant number of I's (incomplete), F's (failing grade), W's (withdrawal) or WF's (withdrawal failing). Therefore, each undergraduate is allowed a maximum of 40 deficient hours in pursuit of a specific degree.

IV. Maximum Number of Hours Allowed to Complete a Degree. Each undergraduate enrolled in a degree program is eligible for financial assistance for a maximum of 160 hours specific to the completion of the degree.

Students not meeting the hour and GPA requirements (components I and II) are automatically placed on one-semester financial aid probation. Students may be placed on financial aid probation only once during their academic career at TU. A student who is denied assistance based on the satisfactory academic progress policy may submit a written appeal to the Office of Student Financial Services. The appeal should address mitigating or extenuating circumstances that have affected the student's academic performance (e.g., severe physical injury or mental trauma). The appeal and any supporting documentation must be received by the Office of Student Financial Services within two weeks of the date of the suspension notification letter. Action taken on a financial aid appeal is final. Written notification is sent to the student within two weeks of the receipt of the appeal by the Office of Student Financial

Services. Students whose appeals are approved will receive a one-time waiver of the requirements, placed on financial aid probation and given the ensuing semester to make up deficiencies and meet the necessary satisfactory academic progress requirements.

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 into TU will have all credits 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 and a 3.00 cumulative grade point average for academic scholarships to be continued. Students receiving athletic or talent scholarships must meet the eligibility requirements of the respective programs.

Other Information

Financial Aid Disbursements. Financial aid is disbursed through the university's Business Office at the beginning of each semester. An information bulletin is sent with each award notice indicating the exact disbursement procedure for each aid program.

Employment Projections. Information regarding employment projections can be reviewed through the Office of Career and Personal Development. Various local employment information and beginning salary levels for University of Tulsa graduates are also available at the Office of Career and Personal Development.

Campus Security Report. Information regarding campus security policies and campus crime statistics is available through the Campus Security Office.

Completion and Graduation Rates. Information concerning the completion and graduation rates is available through the undergraduate Office of Admissions. Also available is the completion rate for athletic students.

Study Abroad. Financial aid is available for Study Abroad programs. Please contact the Office of Student Financial Services for more information.

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 catalog as well as being available from the Office of Student Financial Services. Sample refund/repayment examples are available for review through the office also.

Verification. Students selected for verification by the federal government of their information on the FAFSA must complete a verification worksheet along with submitting the required federal tax returns and W-2 forms. Additional documentation may also be required. If a student's aid application is selected for verification and the student is eligible for a Federal Pell grant, verification must be completed within 60 days from the last day of enrollment or August 30th, whichever is earlier. To complete verification all tax returns and forms required on the incomplete notice letter must be received and be complete. A valid EFC (FAFSA processed and accepted) must be received within this time limit.

Students eligible for campus-based programs and Federal Stafford loans must complete verification prior to the last day of enrollment. In addition, a valid EFC must be received by TU before the last day of enrollment. Federal Stafford loan applications must be certified by the Office of Student Financial Services before the last day of enrollment each academic period to receive loan funds.

TU does not disburse awards for students who are selected for verification until the process is complete. If you have questions concerning verification and the required documents, contact the Office of Student Financial Services

Failing to complete verification by the deadlines will result in loss of any eligibility for Federal Aid funds.

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 submit:

- The Free Application For Federal Student Aid (FAFSA) or the Renewal Free Application for Federal Student Aid if a continuing student.
- The TU Financial Aid Application.
- An Affidavit of Independence for students age 24 and under requesting consideration as a student financially independent of their parents.

Students may obtain the FAFSA from their high school counselors or local college financial aid offices. Assistance in obtaining forms is available by consulting the Office of Student Financial Services.

For Best Consideration

Applications are available in December for the following academic year. The FAFSA should be completed by the first week in February and mailed to the processor. The FAFSA is used as the university's application for consideration of most sources of financial assistance. It is designed to be your financial aid application for the Federal Pell Grant program, OTAG program, Federal Supplemental Educational Opportunity Grant, Federal Perkins Loan, Federal Work-Study program, and documentation of eligibility for any federal loan program. Detailed instructions are included with the FAFSA. Once your FAFSA is processed, you will be sent a Student Aid Report.

You must apply annually for financial assistance. Each year the university sets a priority date for timely submission of all forms to receive full consideration for all assistance available. The priority date for students is April 1.

After you initially apply using the FAFSA, the next year you will be sent a Renewal Free Application For Federal Student Aid if you meet certain conditions. The Renewal FAFSA will be mailed in December to the address listed on your previous FAFSA. It will allow you to answer fewer questions if information that you reported the previous year is still correct. Either the FAFSA or the Renewal FAFSA can be used to apply for financial assistance.

Grants

Federal Pell Grant

- Awards - \$400 to \$3,300 per year.
- 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 bachelor's degree.
- Application procedure - Complete the FAFSA. List The University of Tulsa (code number 003185) as a college to receive your information.

Federal Supplemental Educational Opportunity Grant (FSEOG)

- Awards - \$100 to \$4,000 per year; determined by need analysis.
- 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.

Oklahoma Tuition Aid Grant (OTAG)

- Awards - Size of award determined by the Oklahoma State Regents for Higher Education. Range is from \$50 to \$1,000 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. Apply 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 - Size 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 - \$1,000 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 full tuition.
- Application procedure - No additional application form is necessary.

Loans

Federal Perkins Loan

- Awards - Up to \$4,000 per year for an undergraduate; size is determined by need analysis. Undergraduate indebtedness may not exceed \$20,000 during all undergraduate years.
 - Eligibility - Determined on the basis of need analysis by the Office of Student Financial Services.
 - Application procedure - Complete the FAFSA and provide your drivers license number (if any).
 - Other information - 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 \$40. The loan must be repaid within 10 years from the date payments begin.
-

Federal Family Education Loan Programs

Federal 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 \$2,625 for freshmen, \$3,500 for sophomores and \$5,500 for juniors and seniors. Independent undergraduates can borrow up to \$6,625 as a freshmen (at least \$4,000 of this amount must be unsubsidized), \$7,500 as a sophomore (at least \$4,000 of this amount must be unsubsidized) and \$10,500 as a junior and senior (at least \$5,000 of this amount must be unsubsidized). The total Federal Stafford Loan debt you can have outstanding as a dependent undergraduate is \$23,000; as an independent undergraduate, \$46,000. 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. Return the Loan Request Form included with your TU Award Notification. All students will sign a Master Promissory Note (MPN) for a student loan. This is a new type of loan application. The purpose of the MPN is to allow only one promissory note to be used for up to ten (10) years. The original MPN will be mailed to you after you have completed our paperwork. After you have completed this MPN for the first time, for additional loans here at TU, you will only need to complete the TU loan request form (along with the annual FAFSA). If you decide to change lenders, you will need to complete a new MPN. At any time you still have the option to cancel the MPN, cancel a specific loan amount, or reduce a loan amount.
- Other information:

1. The federal government pays the interest on a subsidized Stafford loan while you are in school or in deferment. Borrowers are responsible for the interest during in school and deferment periods on an unsubsidized Stafford loan. The lender may allow the interest to accumulate until the deferment ends, but the interest will be added to the principal.
2. The current interest rate is variable and capped at 8.25%. Borrowers with outstanding 7%, 8%, 8/10%, 9% and variable capped at 9% loans will borrow any new loans at the current rate.
3. Repayment for 7% borrowers begins nine months after the student ceases to be at least a half-time student.
4. Repayment for all other interest rates begins six months after ceasing to be enrolled in the required course load. Minimum payments are typically \$50 per month.
5. 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.

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.
- Eligibility - Parents of dependent undergraduate students who pass credit check.
- Application procedure - Contact an eligible lender such as a bank, credit union, etc., and complete a PLUS application.
- Other information:
 1. The interest rate is capped at 9% simple interest on the unpaid balance for new borrowers. The annual rate is variable.
 2. Repayment begins on the day the loan is disbursed.

Employment

Federal Work-Study Program (FWS)

- Awards - Size is determined by need analysis. Range is normally from \$700 to \$2,300 per year.
- 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/financial/employment>.

Part-time Work for Students Not Receiving Aid

- The Office of Housing and the Office of Dining Services often have part-time work available to students not on the Federal Work-Study Program. Apply at Housing & Dining Services. Other departments such as the libraries, KWGS radio station and Allen Chapman Activity Center may have work available to students. Check the listings for Institutional Positions on the web at <http://www.utulsa.edu/financial/employment>.
-

Scholarships

Presidential Scholarships

- Awards - Range up to \$6,000 per year, based on exceptional merit.
- Eligibility - Determined on the basis of high school record, grade point average, standardized test scores. Students must maintain a 3.00 cumulative grade point average and full-time status. Limited to eight semesters. All scholarship awards (university and non-university) combined for a student may not exceed full-time tuition and the base room and board charges (for on-campus students).
- Application procedure - Entering freshmen are selected based upon review of their academic credentials by the President.

University Scholarships

Academic College, Excellence Award

- Awards - Range up to \$6,000 per year, based on merit.
- Eligibility - Determined on the basis of high school record, previous college grade point averages, standardized test scores. Students must maintain a 3.00 cumulative grade point average 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.

National Merit Scholarships

National Achievement Finalist, National Hispanic Finalist, National Achievement Semi-Finalist, National Achievement Commended

- Awards - Full tuition per year for Finalists, up to \$750 per year for other categories.
- Eligibility - Determined on the basis of test scores by National Merit Corporations. Finalists must select The University of Tulsa as their first choice with the Merit Scholarship Corporations. Students must be named as semi-finalists or commended by the Merit Scholarship Corporation. 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 full tuition. 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 Merit Scholarship materials must be completed by entering freshmen.

Honors Program Scholarship

- Awards - \$1,100 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. After first year, a 3.25 cumulative grade point average is required for renewal. Limited to eight semesters. 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 complete an Honors Program application form.

Departmental

- Awards - Range up to full tuition, based on merit and/or need.
- Eligibility - Determined on the basis of academic record and performance in certain academic fields. Very limited. 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 - Students are selected based upon review of their academic credentials by the Office of Student Financial Services.

Performance (music, art, theatre, musical theatre)

- 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

- 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 - Write to the Athletic Director, The University of Tulsa.

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

By agreement with the U.S. Air Force, eligible full-time students at The University of Tulsa may participate in AFROTC, be awarded scholarships of up to \$7,500 per semester, and receive an officer's commission in the Air Force upon graduation. They are commissioned through the AFROTC program at OSU-Tulsa but remain students at TU and graduate from TU.

For further information, see page 304 of this bulletin. (Note: AFROTC scholarships are not administered by The University of Tulsa.)

Libraries and Other Academic Resources

Libraries

The library homepage is at <http://www.lib.utulsa.edu>, and offices for library staff are located in McFarlin Library.

The undergraduate curriculum at The University of Tulsa, with its pattern of individual study, requires the student to explore recorded knowledge in many formats and typically leads back to primary sources for original investigation and personal reinterpretation. Supporting and stimulating this kind of study are rich library resources.

Undergraduates have direct access to library holdings of more than three million items that include books, serials, government documents, microforms, maps, literary manuscripts, historical archives, and other materials, as well as electronic access to national and international library holdings. In addition, the library offers high levels of service to its users, strength and sophistication in its electronic capabilities, and special collections in modern American, British and Irish literature, Native American history and law, as well as petroleum exploration and development.

A variety of library instruction programs strengthen the information literacy skills of members of the university community, especially those of undergraduates. These programs, some of which are offered through the Writing Program, build the competence of information seekers to use materials in both traditional (print, microform, and sound recordings) and automated formats (CD-ROM, on-line searches, and access to local and remote databases). The library today can locate information from any part of the world and deliver it efficiently to users through interlibrary loan, FAX, or electronic systems.

A major component of the libraries' automated services is the INNOPAC on-line catalog which supports internal processing services (circulation, acquisitions, serials, and cataloging). This late-generation software controls a database of more than 500,000 records and is available from more than 85 terminals and personal computers in the libraries. The software can also be accessed directly from residence hall rooms and campus offices. Anyone can access the catalog via the Internet from anywhere in the world.

Library users can also access a broad array of national databases, including OCLC (which contains more than 27 million cataloging records from more than 17,000 libraries) and RLIN (the databases of the Research Libraries Group, Inc., whose 250 members together hold a large proportion of the nation's major research collections). The Internet is accessed through the campus backbone network.

McFarlin Library, the central facility of the system, is open more than 95 hours each week. Open stacks provide easy access to materials. One main service point supports access to print and a growing collection of electronic resources. An automated interlibrary loan service, bolstered by courier service between major Oklahoma libraries, is available to all of the university's students, faculty, and staff. The Federal Document Depository collection, which consists of 480,000 items issued by Congressional and judicial and executive departments, includes a complete file of U.S. census reports. The document unit also supports the growing body of information issued in electronic format by the government.

More than 110,000 rare books and 3,500 linear feet of literary and historical manuscripts are shelved in Special Collections. These growing collections, focused on American, British, and Irish literature of the late 19th and 20th centuries and on Native American history and law, have achieved an international reputation in the scholarly community. Scholars from

around the world visit them annually. They support teaching and research across many academic departments and are routinely used in undergraduate instruction. Building on existing strengths, collections designed to support the study of post-1950 Commonwealth and women's literature, the cultural impact of the Vietnam War, and computer-assisted graphic design are under active development.

The Sidney Born Technical Library, an integral part of McFarlin Library, contains an outstanding energy collection, notably in petroleum. It serves the College of Engineering and Natural Sciences with more than 300,000 items pertaining to engineering and physical sciences. In addition, the Petroleum Abstracts Document Delivery Service, housed in the library, maintains an extensive collection of articles, papers, patents, and reports related to the more than 620,000 items cited in the university's weekly publication, *Petroleum Abstracts Bulletin*.

The Mabee Legal Information Center (MLIC) in the College of Law opened on January 17, 2000. The existing law library was completely renovated, and two new floors were constructed to produce this state-of-the-art facility. Library collection space has nearly doubled, seating capacity has been increased to accommodate over 100 percent of the student body, expanded technologies have been introduced, and additional facilities for law school programs have been added.

The MLIC holds more than 279,000 volumes, featuring a solid basic legal collection and specialized collections in energy and environmental law and Native American Law. An extensive collection of materials on microfiche includes U.S. Supreme Court Records and Briefs, Congressional Information Service publications, Native American Reference Collection, and United Nations Documents and Publications (Readex Law Library Collection and Human Rights segments). All MLIC users have access to a vast number of law related electronic resources in either web based or CD-ROM formats. (Law students, faculty, and staff also have access to LEXIS and WESTLAW.) The MLIC has an electronic classroom, 259 electronically wired carrels and tables, and computer labs.

Although its primary constituency is the law faculty and students and members of the local bar, the MLIC is also increasingly a campus-wide resource for interdisciplinary programs created jointly by the College of Law and other colleges and departments. All faculty members and students of the university have full access to the MLIC.

Computing and Information Resources

The Computing and Information Resources (CIR) homepage is at <http://www.cir.utulsa.edu>. Offices for Computing and Information Resources staff are located in Zink Hall and in McFarlin Library.

All students, faculty, and staff members automatically receive an access account at The University of Tulsa. This account is used for e-mail access, access to university enterprise computing servers and may be required to access other resources across campus. All students living in residence halls or in University Square Apartments and all faculty and staff are able to connect to a robust university fiber optic Intranet, to the commodity Internet and to Internet2. The university maintains centralized Unix and NT-based academic and administrative servers in Zink Hall that host the enterprise e-mail server, statistical packages, a variety of development environments, database management systems, a variety of web services, tools to support instructional technology and distance education, and other academic software. Administrative information services at the university, including web-based information access, are maintained on site and licensed from Datatel, which is exclusively focused on

higher education information technology.

The main student computer laboratory, used to access numerous digital instructional and research materials, is located in McFarlin Library. This lab is available on a 24-hour basis during the week and on a reduced schedule on weekends. All colleges have numerous computer laboratories and high technology classrooms to support contemporary teaching and learning strategies.

All students living on campus, faculty and staff have telephone service, including voice mail. On the Plaza Level of McFarlin Library, the Campus Computer Store, where personnel have significant expertise in using the web to locate hardware and software from university vendors. A Cyber Café is located on the main level of McFarlin Library, where students may surf the web and read email. A help desk, located in McFarlin Library, provides assistance by answering numerous routine user questions and routes calls to other appropriate individuals for response to less routine user questions. Each semester, CIR offers hands-on training classes to students, faculty, and staff, covering a variety of topics from basic word processing to designing a web page.

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, business, sciences, and engineering, and also cooperates with the College of Law in offering joint J.D./master's degrees. The university's graduate programs, which enroll about 700 students, are described in the 2000-2002 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; and 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 in English (writing) enable the university to offer many small, high quality courses; and graduate assistants in the Writing Center, the Mathematics Lab, and in 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.

The College of Law

The university's College of Law is a graduate-level college offering a curriculum leading to the juris doctor degree. The College of Law and the Graduate School offer 10 joint J.D./masters degrees. Selected graduate and undergraduate students not enrolled in joint degree programs may be permitted to take law courses, and selected law students may take courses through the Graduate School. The College of Law, which enrolls about 600 students, maintains a 279,000-volume legal information center, has two legal clinics, three law journals, and offers seven certificate programs.

The involvement of the College of Law in the life of the university is exemplified by the number of its students who have received their undergraduate education at the university, by the number of joint graduate-law degree programs it offers, and by the availability of its legal information center to other students and faculty. In addition, the College of Law offers a number of lectures, special programs, and conferences that are open to the entire university

community. College of Law programs and admission requirements are detailed in the separate College of Law Bulletin.

National Energy and Environmental Law and Policy Institute

This institute, which operates within the College of Law, provides one of the nation's most innovative law programs. Its major goals are to serve as a center for long-term research into the development of energy and environmental law and policy in the United States. The Institute serves as a forum for continuing discussion of the nation's energy and environmental law and policy through symposiums and other programs featuring nationally and internationally noted experts.

Office of Research

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 research. Faculty from every discipline are active in research. The Office of Research assists in the development of proposals, provides information on program guidelines and procedures, and helps identify sources of support. The Office of Research also administers federal grants and contracts, and funds faculty and student research grants as well as Faculty Summer Development Fellowships. Sources of external funding include private foundations, business and industry, and such national and state agencies as the National Science Foundation, Department of Energy, Environmental Protection Agency, Office of Naval Research, National Institutes of Health, U.S. Information Agency, National Aeronautics and Space Administration, Oklahoma Center for the Advancement of Science and Technology, Oklahoma Regents for Higher Education, Oklahoma Foundation for the Humanities, and Oklahoma Alliance for Public Policy Research.

Another significant federally supported program is in teacher preparation. As the recipient of one of three national awards funded by the National Science Foundation, The University of Tulsa is the lead institution working with eight other universities in the Oklahoma Teacher Education Collaborative, which addresses the concerns of teacher preparation, recruitment, pre-service training, and the early years of teaching science and mathematics.

The University of Tulsa administers the Integrated Petroleum Environmental Consortia (IPEC) with the University of Oklahoma, Oklahoma State University, and the University of Arkansas. The objective of the consortia is to study low cost technology for waste minimization and environmental remediation in exploration and production (E&P), refining, transportation, and end use of petroleum.

As a strong, viable partner in collaboration with industry, the university currently administers consortia or joint industry projects in the following: fluid flow, drilling, artificial lift, erosion/corrosion, paraffin deposition prediction, reservoir exploitation, reservoir properties, horizontal well completion, separation technology, coiled tubing mechanics, and distributed parallel processing. An exemplary model of faculty participation in statewide collaboration is through the Experimental Program to Stimulate Competitive Research (EPSCoR) awarded by the National Science Foundation to the state of Oklahoma. The University of Tulsa is involved with three centers: Oklahoma Biotechnology Network, Center for Photonic and Electronic Materials and Devices, and Instrumentation and Characterization of the Environmental Research Facility.

Anthropological research projects explore prehistoric sites in Southern Jordan. Current biological science research projects include systematic studies, endocrine regulation, intestinal immunology, and the origins of phylogeny of green plants. Psychological studies are being conducted in leadership and team performance. Research in geosciences involves studies of deep subsurface environments, the ocean floors, as well as the seismic and sedimentologic characterization of subsurface sandstone reservoirs.

Research in chemical engineering includes renewal of soil ecosystems biodegradation of gas condensate hydrocarbons, indoor air quality, and the study of liquid-liquid-vapor equilibrium systems. Research in mechanical engineering includes the study of gas lift valves, multiphase flow loop data analysis, sand probes evaluation, and fatigue resistance. Electrical engineering research includes telemedicine systems, test methods for submersible pump cable, and control of stepper motors. Projects in mathematical and computer sciences involve data base security, and detecting and resolving interoperability problems.

The Tulsa Undergraduate Research Challenge (TURC) was founded to involve engineering and science scholars—freshmen, sophomores, and area high school students—in tackling major projects that serve the community and shatter any notion that students in their late teens and early twenties cannot conduct significant research. The program now includes students in the humanities, social sciences, and business administration as well. Under the aegis of TURC and with individual mentoring from University of Tulsa faculty members, the students not only learn how to conduct research but also gain skills required to compete for national scholarships. Since 1995, 19 TU undergraduates have received Barry M. Goldwater Scholarships. Through TURC and numerous other projects in all disciplines, undergraduates enjoy exciting opportunities for involvement in stimulating research activities.

Division of Continuing Education

The Division of Continuing Education serves as the academic outreach unit for the university, and its programs often represent each of the university's academic colleges. Through the division, the university serves a world-wide market through non-credit public and customized in-company seminars, workshops, short courses, conferences and certificate programs each year for approximately 7,000 participants. Most of these are post-graduate level professional development programs in business, engineering, and law. Many meet the mandatory continuing education requirements of professional licensing and certification boards. Also, through the Division's Unabridged Education program, individuals in the Tulsa community may attend selected courses for personal enrichment at a greatly reduced cost.

Continuing Education also administers the university's Legal Assistant Program, a graduate level course of study, which full-time students can complete in five months. The part-time program, which is offered in the evening, requires approximately one year for completion. For additional information about these and other programs, call (918) 631-2937.

Advising at The University of Tulsa

Academic Advising and Support Services

Academic Advising. 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.

All students are advised through the college to which they are admitted. Although in some cases academic advising is coordinated by a professional advising staff, 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. 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. The center is the central location for students with disabilities who are seeking appropriate accommodations.

Writing Center. Located in Zink Hall, the Writing Center, sponsored and staffed by the Department of English, is open daily during the week and also offers some evening hours. The center provides free assistance to students in the form of individual and group tutorials on writing assignments and is also available for drop-in tutoring assistance on a first-come, first-served basis. Students wishing these services should call for information and an appointment. Students are encouraged to use these services for any class in which they have a writing assignment.

Math Resource Center. Located in McFarlin Library, the Math Resource Center provides math tutoring to all students in freshman level mathematics classes: College Algebra, Contemporary Mathematics, Mathematics with Applications, Basic Calculus, Precalculus, and Calculus I and II. The center operates on a schedule that includes hours on Monday through Thursday and Sunday afternoons.

Speech, Language, and Hearing Testing and Therapy. The university's programs in Communication Disorders provide formal speech, language, and hearing testing and therapy services for all persons. There is a fee for these services. A free screening clinic is available 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.

Advising for Careers and Personal Development

Career Services. Located in the Holmes Student Center, this office provides services for all students and alumni of the university. A major goal is to help all students gain the infor-

mation and skills needed to select a career and conduct a job search that will lead to desirable employment. The office assists each individual in developing a career plan and specific strategies that will lead to his or her employment goal.

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

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 (631-2200) Monday through Friday between the hours of 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.

Advising in Student Affairs

New Student Orientation. Most students first encounter the Office of Student Affairs through new student orientation, held the week prior to the fall term and in January before the spring term begins. Orientation is designed to help students form new and lasting relationships with faculty, staff and students. Students spend five days with approximately 12-15 other new students, a faculty member, and a student orientation leader. Together they will explore Oklahoma, Colorado, New Mexico, or Arkansas, and will delve into the cultural and historical life surrounding Tulsa, Estes Park, Santa Fe, and Hot Springs. Upon their return to campus, they will participate in interest sessions for new students and receive hands-on training on how to access the newest computer technology, with special emphasis on using the Internet and e-mail.

Office of Student Affairs. Throughout the year, 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 the student's educational experiences. Specific programs, services, and activities include Interfraternity Council, Panhellenic Council, Student Association, Student Activities, Leadership Education, and Multicultural Student Programs. This office also handles student disciplinary matters, investigates complaints of sexual harassment or sexual assault, administers the alcohol policy, houses the ombudspersons, coordinates parents' weekend, coordinates commencement activities, and educates the campus community on student policies and procedures.

Multicultural Student Programs. This office provides individual counseling and support for African, Asian, Hispanic, and Native American 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 racial and ethnic groups. Multicultural Student Programs include academic study groups, peer mentoring, and a wide variety of celebrations, seminars, and activities that focus on African, Asian, Hispanic, and Native American cultures.

International Student Services. The needs of students who are citizens of other countries are the concern of International Student Services located in Westby Hall. The office coordinates undergraduate admission, issues government and immigration documents, counsels students on academic and personal matters, and offers various programming activities throughout the year. The office also assists international members of the faculty. 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. The English Institute offers an intensive course in writing, speaking, and understanding the English language for international students and community residents. The institute's primary objective is to provide international students with a sufficient command of English to function on a level comparable to that of their U.S. classmates.

Residence Directors. In the residence halls, professionally trained residence directors work with student hall governments and staff to schedule programs and activities each semester and are also available for counseling and referral assistance.

Special Opportunities, Facilities, and Services

The Fine and Performing Arts

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

The Division of Fine and Performing Arts comprises the School of Art, the School of Music, and the Department of Theatre. Each unit offers degree programs that lead to professional careers in the arts and to the appreciation and understanding of the fine and performing arts. 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. 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 run 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, the National Scholastic Art Awards Competition 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 both 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 every day except Saturday and Sunday without charge.

Literary Arts. The university offers creative writing instruction through the Department of English and occasional opportunities for all students to publish their work in a student-edited journal or literary supplement. The university also publishes *Nimrod: International Journal*, described on page 56, which publishes writers from all over the world but is also open to competitive submissions from graduate and undergraduate students. Writer-in-residence A.G. Mojtabai and Russian poet Yevgeny Yevtushenko teach and encourage new students of fiction, nonfiction, and poetry. They also offer expertise in the legal complexities of publishing, film rights, and media coverage. Mojtabai, whose most recent works are the novel *Called Out and Soon: Tales from Hospice*, a collection of short stories, has been preceded as writer-in-residence by such distinguished novelists as Paul Scott and David Plante. Also, the J. Donald Feagin Distinguished Visiting Artist program annually brings to the campus guest artists in the humanities. In spring 2000, five poets, including David Lehman and Colleen McElroy were visiting artists for a course called "Living Poets."

The University of Tulsa Theatre. Each season, the University of Tulsa Theatre presents several plays from the classical, modern, and contemporary repertoire, including productions of the musical theatre program described below. The theatre is consistently chosen to represent the state of Oklahoma in regional American College Theatre Festival competitions. Recent productions have included Euripides' *Hecuba*, *Les Liaisons Dangereuses*, *Much Ado*

about *Nothing*, *Arcadia*, and *Dancing at Lughnasa*. Visiting artists have included such notables as Edward Albee, Hal Prince, Jose Quintero, Anthony Zerbe, and Carole Shelley, as well as numerous guest designers and acting teachers.

Auditions, open to all university students, are announced in the student newspaper and on the bulletin boards in the Allen Chapman Activity Center. There are also opportunities in costumes, scenery, lighting, and special effects. Call or visit the theatre office in Kendall Hall for more information.

Musical Theatre. A major collaborative undertaking of the School of Music and the Department of Theatre, the Musical Theatre program offers an active production season that includes staging of musicals such as *Guys and Dolls*, *Falsettos*, *Chicago*, *Hair*, and *Into the Woods*, operas such as *Die Fledermaus*, and operettas such as *The Vagabond King*. Productions are sometimes given both on and off campus. Roles are filled by audition, and qualified students are invited to participate as performers or stage technicians. For more information, call or visit the theatre office in Kendall Hall.

Vocal Ensembles. *The TU Chorale* is open to qualified students in the university by audition. Auditions are held at the beginning of the fall semester, and students are expected to participate for the full academic year. Presenting music from both the classical and popular traditions, the chorale tours for recruitment purposes and performs both on campus and for various civic/cultural organizations. For further information, inquire at the School of Music Choral Office.

The University Chorus is open to all members of the university community with limited prerequisites and a vocal hearing. The largest of the university's vocal groups, the chorus performs large orchestral/choral works with the Tulsa Philharmonic Orchestra and other instrumental ensembles at least twice each year. Students may receive one credit hour for membership. Inquire about joining at the School of Music Choral Office.

Intuition is a vocal ensemble made up of eight to twelve singers. Its repertoire features music in many different styles, including blues, standards, Latin, contemporary jazz, and some classical. The group performs actively during the year.

Intuition is open by audition to all interested students at the university. One credit hour may be earned each semester. For further information, inquire at the School of Music Choral Office.

Orchestra. *The Symphony Orchestra* is open to all students by audition and required of all string majors. It presents several concerts each year on campus and throughout the community.

Bands. *The TU Wind Ensemble*, made up of the most outstanding wind and percussion students on campus, performs music written for ensembles of 10 to 45 players. Flexible instrumentation and player rotation provide members with a variety of solo and ensemble experiences.

The Symphonic Band, numbering approximately 50 musicians from all colleges of the university, presents on-campus concerts each year and draws its repertoire from both contemporary and traditional band literature.

The Sound of the Golden Hurricane marching band is a 130-piece drum corps style marching band that mirrors the Madison Scouts, with a large percussion line on the field and a large "percussion pit" on the sideline. The band performs at halftime during football games.

The TU Sports Bands-two bands of 30-40 members each-alternate with each other in providing entertaining music at all home basketball games, and also travel with the team to tournaments, including the annual WAC Tournament in Las Vegas.

Jazz Ensembles. The *Big Band* focuses on big band styles, reading skills, composition, interpretation, and performance. All practical doublings are stressed, particularly in woodwinds. The band performs music by traditional and contemporary composers and arrangers and encourages original writing by band members. The goal is to build a style indigenous to this band and its members.

The *Club Date Combo* exposes instrumentalists and vocalists to popular tunes and the ways they are traditionally played in a club date context. Students are encouraged to learn and interpret standards, ballads, and contemporary jazz tunes.

The *Writers' Combo* performs original jazz compositions, exploring as many different styles as possible in ensemble, improvisation, and composition.

In the *Jazz Guitar Ensemble* students are instructed in chord voicing, soloing in various styles, sight and prepared reading, and small ensemble playing.

Religious Life

The university encourages the full, diverse expression of religious life. Acting on behalf of the university and its educational mission, the Office of University 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; leading ecumenical and interfaith services of worship; and assisting the campus community in nurturing a caring and respectful environment for diverse expressions of the life of faith.

Sharp Memorial Chapel, home to the non-sectarian ministries of the University Chaplain, stands at the head of the "U," sharing the plaza with McFarlin Library, Kendall Hall, and Tyrrell Hall. Its location at the center of the campus is a fitting metaphor for the university's religious life and a reminder of the historic covenantal ties the university maintains with the Presbyterian Church (U.S.A.).

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 60, adds its distinctive identity and voice to the university's interfaith conversation and religious life.

Publications, Radio, and Television

Collegian. The student newspaper, the *Collegian*, is in its 87th year of continuous publication. The paper, which is published on Tuesday during fall and spring semesters, 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 for information.

Nimrod: International Journal. In the tradition of the influential "little" magazines that first published Virginia Woolf, T.S. Eliot, and James Joyce, *Nimrod* publishes excellent writing, including competitive work by graduate and undergraduate students. Published twice yearly, the journal sponsors the national *Nimrod*/Hardman Awards competition in fiction and poetry. Thematic issues, one each year, have featured Arabic, Chinese, East Indian, Native American, and Russian writers, the works of writers over age 65, the Arctic Circle, and The City.

KWGS. Radio station NPR@89.5 KWGS-FM, housed in Kendall Hall, is northeastern Oklahoma's National Public Radio affiliate. Administered by five professional staff mem-

bers, the station offers students opportunities to experience broadcasting in actual work settings. Affiliation with National Public Radio, Public Radio International, and the British Broadcasting Corporation provides opportunities for students to have their work aired by public radio's interconnect system of more than 600 stations. Students throughout the university who are interested in the production, engineering, and management aspects of broadcasting are encouraged to audition and apply for employment at KWGS in Kendall Hall, Room 160. For more information, e-mail fm89@kwgs.org or visit the NPR@89.5 web site at <http://www.kwgs.org>.

The Underground, a radio service broadcasting to all campus dorms, is sponsored by KWGS. Student programmed, operated, and managed, this campus service provides students with opportunities to be "on-the-air" with music of their own choosing. Interaction with personalities from local stations allows opportunities to learn from the best, network with the broadcast community, and intern at Tulsa's radio and television facilities. Some of TU's hottest rock concerts are sponsored by The Underground. Contact the subterraneans in their studios located beneath Chapman Hall or visit them on the web at <http://www.utulsa.edu/underground>.

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

Athletic and Recreational Programs

Recreational and Intramural Sports. All facilities (Mabee Gymnasium, Harwell Field, tennis and racquetball courts, free weight room fitness center, swimming pool, and dance room) are available for informal use by students, faculty, and staff during certain hours each day. A complete schedule of open recreational hours is available in the Recreational Sports Office, which also provides programming in intramural sports, fitness, club sports, and informal recreation. Recreational and intramural sports are listed on page 61. For information on specific programs call the Recreational Sports Office in Mabee Gymnasium.

Intercollegiate Athletics. The university's NCAA IA athletic program competes in the Western Athletic Conference. The university's basketball, football, women's golf, men's golf, women's soccer, men's soccer, and tennis teams have all been nationally ranked during the 1990s, and the university's basketball team reached the Elite Eight in the 2000 NCAA Basketball Tournament.

The university offers scholarships in 18 intercollegiate sports and encourages walk-on participation. Men's sports include basketball, cross country, football, golf, indoor track, outdoor track, soccer, and tennis. Women's sports include basketball, crew, cross country, golf, indoor track, outdoor track, soccer, softball, tennis, and volleyball.

The athletic program encourages both the athletic and academic development of student athletes and provides a unique and effective academic advisory and tutorial system for educational success.

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. The Student Association promotes and provides intellectual, social, and cultural opportunities for the entire campus community. In addition, 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. Full details on the structure and activities of the Student Association can be found in the current Student Handbook, published and distributed annually by the Office of Student Affairs, as well as in the Student Activities office located in Allen Chapman Activity Center.

Residence Hall Association (RHA). All students living in university residence halls are members of the Residence Hall Association (RHA), whose goal is the improvement of the quality of student life. RHA sponsors social, educational and community service activities for students living in the halls and on a campus-wide basis. RHA acts as a liaison between the residents and the administration, and serves as the legislative government overseeing residence halls. 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.

Student Organizations

Fraternities and Sororities. Seven national fraternities and nine national sororities have chapters at the university. They encourage scholarship, leadership, and personal development.

Rush, 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 rush programs. Students may write or telephone the Office of Student Affairs for further information.

National sororities are Alpha Kappa Alpha, Chi Omega, Delta Delta Delta, Delta Gamma, Delta Sigma Theta, Kappa Delta, Kappa Kappa Gamma, Kappa Alpha Theta, and Sigma Gamma Rho.

National fraternities are Alpha Phi Alpha, Kappa Alpha, Kappa Sigma, Lambda Chi Alpha, Pi Kappa Alpha, Sigma Chi, and Sigma Nu.

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's Student Activities Board. As new organizations are formed, they are added to the list throughout the year. Further information on these organizations and activities is contained in the *Student Handbook*.

Honor Societies

Alpha Epsilon Delta (Pre-med)

Alpha Kappa Delta (Sociology)

Beta Beta Beta (Biology)

Delta Sigma Pi (Business)

Delta Theta Phi (Law)

Eta Kappa Nu (Electrical Engineering)

Hispanic Honor Society

Honors Program

Kappa Delta Pi (Education)

Kappa Kappa Psi (Music)

Kappa Mu Epsilon (Mathematics)

Lantern (Sophomore)

Mortar Board (Senior)

Mu Epsilon Delta (Natural Sciences)

Omicron Delta Epsilon (Economics)

Omicron Delta Kappa (Leadership)

Order of Omega (Fraternities and Sororities)

Phi Alpha Delta (Pre-law)

Phi Beta Kappa (Liberal Arts)

Phi Delta Phi (Law)
 Phi Gamma Kappa (Speech)
 Phi Kappa Phi (All disciplines)
 Phi Sigma Iota (International Foreign Languages)
 Pi Epsilon Tau (Petroleum Engineering)
 Pi Gamma Mu (History/Sociology)
 Pi Kappa Lambda (Music)
 Pi Sigma Alpha (Political Science)
 President's Ambassador Council (PAC)
 Psi Chi (Psychology)
 Scroll (Junior)
 Sigma Alpha Iota (Music)
 Sigma Delta Chi (Journalism)
 Sigma Iota Epsilon (Management)
 Sigma Pi Sigma (Physics)
 Sigma Theta Tau (Nursing)
 Tau Beta Pi (Engineering)
 Theta Alpha Phi (Theatre)

Pre-Professional

ACT-TU (Actors, Costumers and Technicians)
 Accounting Society
 American Bar Association, Law School Division
 American Chemical Society
 American Institute for Chemical Engineers
 American-Slovak Law Association
 American Society of Heating, Refrigerating,
 and Air-Conditioning Engineers, Inc.
 American Society of Mechanical Engineers
 American String Teachers Association
 Anthropological Society
 Art History Symposia
 Art Student Society
 Asian-American Law Student Organization
 Association for Systems Management
 Association of Black Collegians
 Association of Collegiate Entrepreneurs
 Association of Computing Machinery
 Association of History Graduate Students
 Association of Systems Machines
 Association of Women in Communication
 Beta Alpha Psi (Accounting)
 Black Law Students Association
 Business Student Executive Council
 Deaf Education Association of TU
 Economics Association
 Engineering and Applied Sciences Council
 Environment and Natural Resource Society
 Environmental Law Society
 Environmental and Sports Law Society
 Finance Association
 Geoscience Club
 Graduate Association for Students in Psychology
 Graduate Student Association in English
 Graduate Students for Women's Studies
 Hurricane Sports Medicine Club
 Institute of Electrical and Electronics Engineers
 International Law Society
 Law and Medicine Society

Le Cercle Francais
 Marketing Society
 Mathematical and Computer Sciences Graduate
 Student Association
 Mathematical Association of America
 Mesa Hispanica
 Minority Engineering and Scienc Association
 National Art Education Association
 National Association of Black Accountants
 National Association of Black Journalists
 National Athletic Trainers Association Club
 Native American Law Student Association
 Phi Alpha Delta (Pre-law)
 Phi Alpha Theta (History)
 Phi Delta Phi Legal Fraternity
 Phi Mu Alpha Sinfonia
 Pre-Professional Club
 Psychology Club
 Public Interest Law Society
 Public Relations Student Society of America
 Russian Club
 Sigma Alpha Iota (Women's Musical Society)
 Society of Automotive Engineers Student Club
 Society of Petroleum Engineers
 Society of Physics Students
 Society of Women Engineers
 Sociology Club
 Sports Administration Society
 Student Bar Association
 Student Economics Association
 Student Entrepreneurial Education Development
 (SEED)
 TU Business Women
 TU Council on the Hearing Impaired
 TU Formula Society of Auto. Engineers Race
 TU Marketing Society
 TU Speech, Language, and Hearing Association
 TU Student Education Association
 TU Student Nurses Association
 Tulsa Journal of Comparative and International Law
 Tulsa Law Journal
 University of Tulsa Sociological Society
 University of Tulsa Trial Lawyers Association
 Volunteer Income Tax Assistance Project

Special Interest Groups

Alexander Health Center Student Advisory
 Alpha Phi Omega, Beta Pi Chapter (service)
 Angolan Student Association of The
 University of Tulsa
 American Indian Cultural Society
 Amnesty International
 Asian American Student Association
 Association of Black Collegians
 Association of International Students
 ASOVEN (Venezuelan Student Association)
 Automated Unmanned
 BACCHUS
 Best Buddies

Bisexual Lesbian Gay & Transsexual Alliance
 Board of Advocates (Law)
 Center for Peace and Justice
 Chinese Student Association
 Coalition Against Apartheid
 College Republicans
 Collegians for Life
 Crime Commission
 Earth Matters/S.H.A.R.E.
 Energy Law Journal
 Environment and National Resources Society
 Hispanic Law Student Association
 Hispanic Student Association
 Hunger Awareness Committee
 Hurricane Chess
 Hurricane Hooligans
 Hurricane Toastmasters
 Independents for America
 Indian Students Association of TU
 Indonesian Student Union
 International Friendship House
 International Relations Club (Model UN)
 Korean Students Association
 Kuwaiti Student Association
 Literary Society
 Malaysian Student Union
 Medieval Society of The University of Tulsa
 Moot Court Board
 Movimiento Estudiantil
 Multicultural Affairs Committee
 Muslim Student Association
 Native American Student Association
 Norwegian Viking Association
 Oklahoma Intercollegiate Legislature
 Older Than Average Students in School (OASIS)
 PACE Environmental Law Moot Court Team
 Pan African Student Alliance
 Peer Education Program
 Renaissance Men
 Reserve Officers' Training Corps (ROTC)
 Saudi Student Association
 Society of Omani Students
 Student Advisory Board of the Center on
 Dispute Resolution
 Student Athlete Advisory Committee
 Student Mobilization
 Student Task Force
 Students Active for the Environment (SAFE)
 Students for Choice
 Students for Service
 Taiwanese Student Association
 Tulsa Area Human Resource Association
 Tulsa Law and Technical Association
 TU Cares
 TU Cinema Guild
 TU Peace Fellowship
 TU Turkish Student Association
 University Ambassadors
 University of Tulsa German Association

Women in Science
 Women's Collective
 Women's Law Caucus
 Young Democrats
 Young Libertarians

Religious Groups

Alpha Omega Christian Society
 Bahai Club
 Baptist Student Union
 Canterbury Center for United Ministry
 Canterbury Collective
 Chi Alpha (Presbyterian)
 Christian Legal Society
 Christian Scientist College Organization
 Church of Christ
 Council on Religious Life
 Fellowship of Christian Athletes
 Filiae Dei (Roman Catholic)
 Jewish Students' Association
 Knights of Columbus
 Latter Day Saints Student Association
 Lutheran Student Movement in the U.S.A.
 Muslim Student Association
 Newman Catholic Campus Ministry
 Student Mobilization (Lutheran)
 Unlimited Praise Gospel Choir
 Wesley Foundation

Music

Jazz Ensembles
 Basketball Bands
 Phi Mu Alpha Sinfonia
 The Sound of the Golden Hurricane
 (includes flags and twirlers)
 Symphony Orchestra
 Symphonic Band
 Wind Ensemble
 TU Chorale
 University Chorus

Communication

Baculus (College of Law student newspaper)
 Collegian (student newspaper)
 KWGS Radio (National Public Radio affiliate)
 The Underground (101.5 FM)
 TU-TV (student cable television show)

Governing Bodies

Honors House Hall Government
 John Mabee Hall Government
 LaFortune Hall Government
 Lottie Jane Mabee Hall Government
 Twin South Hall Government
 Twin Towers Hall Government
 Residence Hall Association
 Panhellenic Council
 Interfraternity Council
 Junior Interfraternity Council

Student Advisory Council
 Student Association
 Student Association Senate
 Student Executive Council, College of Business

Panhellenic

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

Interfraternity Council

Alpha Phi Alpha
 Kappa Alpha
 Kappa Sigma
 Lambda Chi Alpha
 Pi Kappa Alpha
 Sigma Chi
 Sigma Nu

Special Interest Sports Clubs

Bicycling Club
 Bowling Club
 Chess Club
 Fencing Club
 Men's Crew
 Rugby Club
 Skydiving Club
 Sportscar Club

Recreational Sports Clubs

Hockey Club

Volleyball Club
 Outdoor Club

Fitness Programs

Aerobics
 Cardio Boxing
 Yoga
 Fitness and Lifestyle Improvement Program

Activity Classes for Academic Credit

Swimming
 Weight Training
 Scuba Diving
 Volleyball

Intramural Sports

Badminton Singles and Doubles
 Basketball (One on One, Two on Two,
 Three on Three, Tip-Off Basketball Classic)
 Bowling
 Darts Competition
 Eight Ball Pool
 Flag Football
 Frisbee Golf
 Golf (Championship Doubles, Putt Putt, Par 3)
 Inner Tube Waterpolo
 Mystery Event
 Racquetball Singles and Doubles
 Soccer
 Softball (Two Pitch Classic)
 Spades
 Squash
 Table Tennis Singles and Doubles
 Tennis Singles and Doubles
 Volleyball (Sand Doubles, Sand Triples)
 Walleyball

Student Services

Health Services. The Alexander Student Health Center provides care and treatment of minor illnesses and minor emergencies. The center is open Monday through Friday, 8:00 a.m.-5:00 p.m., and is staffed by registered nurses. A physician is available for three to four hours daily, Monday through Friday. A women's clinic, staffed by a licensed physician assistant, is available one afternoon a week. Students wishing to see the physician or physician assistant need to make an appointment. During vacation periods and summer school, clinic hours vary.

All currently enrolled students are entitled to use the Student Health Center. To receive services, the student must complete a health history, which is kept on file, and present a valid student I.D. All medical records are kept confidential. Most services are charged to the student's account and include such items as prescription and some non-prescription medications dispensed at the center, and laboratory procedures. Fees for which the student is directly responsible include referrals to physicians, hospital costs, prescription medications not dispensed at the center, and x-rays or other diagnostic testing.

Counseling and Psychological Services are also available at the Alexander Student Health Center.

Student Health and Renter's Insurance. A health insurance program is available to students. Participation is voluntary. The university has granted an insurance carrier the privilege of advertising its program among students via brochures. Students not receiving this brochure by mail may secure it from Alexander Health Center or International Student Services.

Participants should study the policy carefully. Because it is designed specifically for college students, some of the coverage and benefits may not be similar to those offered under regular family insurance programs. Although participation in the plan offered through the university is voluntary, health insurance is required of all international students, who must either present written evidence of their own coverage or enroll in the program described above.

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 always wise to conduct an insurance review to assure that one has the appropriate amount of coverage.

Services for People with Disabilities. Information concerning special services and facilities for students and student employees with disabilities in need of accommodation may be obtained by students from the Center for Student Academic Support, Holmes Student Center. Students can also receive a copy of the 504/ADA Policy for Students with Disabilities by calling 918-631-2334.

Identification Cards and "Hurricane Gold" Account Policies. The ID/Parking Center in Twin Towers issues identification cards to all students and university employees. The cards are required for admission to and checking books out of the libraries, entry to residence halls, labs, and selected classrooms, and for identification at campus business offices and campus activities. Whenever students are on university property or at university events, they must carry their TU Student Identification Cards and be prepared to present them to university officials to verify their identity. For many reasons, ID cards should not be lent to anyone at any time. Disciplinary action will be taken against a student fraudulently using another's card and against the owner who permits fraudulent use of his or her card.

The debit account feature of the Hurricane Gold student ID card allows students to use their cards for purchases at all dining locations, at the bookstore, in vending and laundry machines, and in copiers. More applications for the use of Hurricane Gold are being added each semester. This debit feature reduces the need to carry or keep cash on hand. Hurricane Gold can be purchased by simply prepaying an amount (\$25 or more) on your account at the ID/Parking Center in Twin Towers Hall; in the Dining Services Office in the administrative offices of the Allen Chapman Activity Center; or in the Business Office in McClure Hall. Smaller dollar increments can be added to your account through the (DART) automated terminal in McFarlin Library, John Rogers, and Allen Chapman Activity Center.

Purchases will be deducted from your account each time you present your ID card. When you reach your Gold limit, you may purchase more. Hurricane Gold is not a credit card or a checking account but a non-interest-bearing convenience account. Banking regulations and university policy prohibit cash withdrawal during the academic year, but remaining balances are fully refundable at the end of the spring semester. Any request for withdrawal of funds must be presented in writing.

If you lose your ID card, especially when there is money in your Hurricane Gold account, notify the ID/Parking Center immediately. You will be responsible for all transactions made

by you or by anyone else who uses your card, even if lost. However, to minimize loss, a \$20 per day spending limit has been established via the computer for all vending locations. The ID/Parking Center can instantly change the account number to protect the account from excessive unauthorized use and will also issue you a replacement ID card, for which there is a charge.

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 Twin Towers Cafeteria—which can “lock-out” use of your missing card. Then, when the ID/Parking Center reopens, the account number can be changed and the account reactivated. If this is not convenient, leave a message on the voice mail (Audix) at the ID/Parking Center. 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. The charge for replacement cards is \$10.

If you have money in your Hurricane Gold account at the end of the academic term, it will be carried over into the upcoming academic term’s balance. Or, if you prefer, you may request a refund of any balance remaining in your account at the end of the academic year.

Activity Card. The TU ID card is used for admission to all athletic events and Student Association-sponsored programs. All enrolled undergraduate and graduate students (except faculty and staff) are entitled to one free admission and one-half price admission to each athletic event. With a TU ID, specific athletic tickets may be picked up at the TU Ticket Office, Business Office in McClure Hall (except for the first football game in the fall), or the administrative office of the Allen Chapman Activity Center. Faculty and staff may use their ID cards to purchase up to four half-price tickets for each athletic event.

Parking Permits. All students, staff, and faculty members must register motor vehicles that are to be parked on university parking lots. Parking permits and copies of parking regulations should be obtained from the ID/Parking Center in Twin Towers Hall. Parking permits are required for residents of university apartments, who can obtain them from the ID/Parking Center after obtaining an authorization form from the Apartment/Property Manager’s Office in the University Square Apartments.

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 Student Affairs Office, Holmes Student Center, and the current Student Handbook.

Family Educational Rights and Privacy Act (FERPA)

The Congress of the United States enacted into law the Family Educational Rights and Privacy Act on August 21, 1974. This act sets out requirements of educational institutions designed to protect the privacy of students and their records.

The act governs access to educational records maintained by educational institutions and the release of information contained in such records.

The Federal regulations resulting from the original Act have been modified, and the final regulations appear in the Federal Register, Issue May 9, 1980, Vol. 45, No. 92. The University of Tulsa policy that was written to comply with the act is on file in the Student Affairs Office, Holmes Student Center, and is printed in the current Student Handbook.

The act addresses the following areas of student rights:

- The right to inspect and review information contained in education records.
- The right to challenge the contents of their education records.
- The right to a hearing if the outcome of the challenge is unsatisfactory.
- The right to submit an explanatory statement for inclusion in the education record if the outcome of the hearing is unsatisfactory.
- The right to prevent disclosure, with certain exceptions, of personally identifiable information.
- The right to secure a copy of the institutional policy, which includes the location of all education records.
- The right to file complaints with the Department of Education concerning alleged failures by institutions to comply with the Act. Written complaints should be directed to The Family Educational Rights and Privacy Act Office (FERPA), Department of Education, Room 4074, Switzer Building, Washington, D.C. 20202.

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 assault can be found in the current Student Handbook. A summary statement on academic honesty appears on page 28 of this bulletin.

Henry Kendall College of Arts and Sciences

The 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 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 both Western and other cultures and acquire competence in mathematics. Arts and Sciences students also can fulfill certification requirements for elementary and secondary level teaching.

A liberal arts degree from The University of Tulsa is distinctive in a variety of ways. For example, all first-year students take a First Seminar in which they study in a seminar-size class with a senior faculty member in the area of that faculty member's expertise. 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 film studies, arts management, environmental policy, and musical theatre and minors in early childhood intervention and creative writing. Students also can design specialized programs and can earn certificates in African American studies, classics, international studies, journalism studies, legal thought, museum studies, Native American studies, political philosophy, visual studies, and women's studies.

Perhaps of greatest importance, students in the 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.

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 French, German, Greek, Latin, 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 better will receive "delayed proficiency credit" for the previous course as well. Students with previous college credit or AP 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 advising office for bachelor of arts

degree requirements. The bachelor of science 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. Some students complete a two-semester sequence. 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.

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. Every year numerous topics are designed by individual faculty members and approved by the First Seminar director.

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, Mathematics with Applications, or Pre-Calculus Mathematics. 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 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 interdisciplinary or major course. To determine the appropriate senior requirement, students should consult their faculty advisor or the collegiate advising office.

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 pages 18-19.

All students in the 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 collegiate 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. Courses that include discussion of the processes of multicultural interaction are eli-

gible for inclusion on the list, but each course must devote a substantial amount of reading and class time to these issues. These courses may also be used to satisfy requirements in the Core Curriculum, the General Curriculum, or the Area of Concentration.

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. The area of concentration builds upon the basic skills in the core curriculum and breadth of knowledge in the general curriculum to ensure an understanding of two or more related disciplines. To be eligible for graduation, the student must achieve a 2.2 grade-point average in the area of concentration as well as a 2.0 overall grade-point average and the completion of a total of 124 hours.

The Major Subject

Students 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 using the following guidelines:

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 24 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 24 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.

Along with majors in all of the departments, the college offers three interdisciplinary majors: Arts Management, Environmental Policy, and Film 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. 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 curriculum committee of the college must approve any programs that differ from these college guidelines. Interdisciplinary minors in creative writing, Latin American studies, and Russian studies have been approved by the curriculum committee and do not need to be approved on a case-by-case basis.

Certificate Programs

Students in the College of Arts and Sciences may substitute an interdisciplinary certificate program for a minor field. Certificates are granted in African American studies, classics, international studies, journalism studies, legal thought, museum studies, Native American

studies, political philosophy, visual studies, and women's 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 collegiate advising office.

The college offers a joint program with the College of Law leading to a bachelor of arts degree after four years and a juris doctorate degree after six. Students must apply to both colleges. This program will be limited to 10 students per year.

Pre-M.B.A.

A joint five-year Bachelors Degree/Master of Business Administration Program is available for undergraduate students in the College of Arts and Sciences. Students enter a sequence of courses in business that will prepare them for graduate business study and fulfill some first-year course requirements at The University of Tulsa and in other M.B.A. programs. Full details are available from the College of Business Administration.

Honors Program

Graduating high school seniors with exceptional academic records and a spirit of intellectual curiosity will be considered for admission as freshmen to the university's Honors Program. Each student in the Honors Program completes a core of four courses and nine credit hours of directed research. The four courses in the Honors Program core are credited to the student's general curriculum requirements. The directed research is applied either as elective or area of concentration hours. Honors Program students may choose to major in any academic discipline offered by The University of Tulsa.

The Honors Program core curriculum consists of four integrated courses taken in sequence that promote dialogue with the architects of the modern worldview. During the junior and senior years, students in the program engage in research supervised by a faculty member of the student's choosing. This research culminates in a senior thesis in which the student works with a faculty sponsor to investigate a problem of the student's choosing. Students admitted to the Honors Program receive an academic scholarship.

TURC

The Tulsa Undergraduate Research Challenge, or TURC program, 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 George Odell.

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 University and Community Services, Sharp Chapel.

Study Abroad

Qualified students may participate in one of several study abroad programs endorsed by The University of Tulsa, usually in the junior year. Programs of study in the arts and sciences are available worldwide through college-sponsored programs and through participation in such foreign study institutes as the Institute of European and Asian Studies, the American Institute for Foreign Study, and the Council on International Education Exchange. Study abroad internships offer another opportunity for international experience and travel. The College of Arts and Sciences sponsors and conducts study abroad programs in Italy, Spain, France, Mexico, Germany, Russia, and Jordan.

The Department of Languages offers a Summer Immersion Program in Málaga, Spain. During this six-week cultural immersion experience, students who have achieved intermediate-level language proficiency live with Málaga families, take excursions to such cities as Cordoba, Seville, Madrid, and Granada, and earn six hours of academic credit in language and culture classes at the Universidad de Málaga's Cursos Para Extranjeros.

The Department of Languages also conducts a semester program in Siegen, Germany, where TU students take regular Uni-Siegen courses, a semester program in Amiens, France, and summer programs in Quebec City, Quebec; Mexico City, Mexico; and Zelenograd, Russia.

The Department of Anthropology offers students the opportunity to participate in summer archeological expeditions in Jordan. Students receive systematic practical training in all aspects of field work, including excavating and recording techniques and processing and field analysis of finds. Programs last four to eight weeks and include workshops, lectures, and cultural excursions.

The School of Art has a summer program in Montone, Italy, where students can work with distinguished painter and TU alumnus Daniel Lang.

Forms for application and financial aid for these and other programs are available from the Study Abroad office, Holmes Student Center 49.

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 curriculum committee of the college. To be eligible to submit a proposal, the student must have a cumulative grade point average of 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 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.

Seminars, Independent Research, 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 advising office 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 can 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 can 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 Registration and Records. The College of Arts and Sciences will award students in

the college who complete the IB Diploma with a score of 28 or above at least 30 credits. 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 High Level examinations with a score of 5 or better. The amount and kind of credit will be determined by individual departments. The 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 advising office for details.

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

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 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 can 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 cannot 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 advising office 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 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 College of Arts and Sciences unless more than five years have passed since the completion of their last semester in Arts and Sciences 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 Arts and Sciences as long as the appropriate courses are offered at the university when the student returns.

Anthropology

Chair

George H. Odell

Associate Professor

Peter G. Stromberg

Professors

Garrick Bailey

Donald O. Henry

Lamont Lindstrom

George H. Odell

Michael E. Whalen

Assistant Professor

Richard Grounds

The program in anthropology, offering a B.A. degree, is designed to provide students with a strong general background in anthropology preparatory to graduate studies or employment in fields such as qualitative 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.

Major Subject**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 (9 hours required; at least 3 hours in archeology/physical anthropology and 3 hours in cultural anthropology/linguistics recommended)	
Archeology/Physical Anthropology Area: Anth 2113, Anth 2233, Anth 3133, Anth 3153, Anth 3233, Anth 3253, Anth 4113, Anth 4203-4393, Anth 4503-4593.	
Cultural Anthropology/Linguistics Area: Anth 1063, Anth 1083, Anth 3103, Anth 3123, Anth 3163, Anth 3173, Anth 3443, Anth 3453, Anth 4213, Anth 4403-4493, Anth 4613-4693, Anth 4863.	
Research Methods (6 hours required)	
Either Anth 4063, Qualitative Research Methods or Anth 3013, Laboratory Archeology.....	3
Anth 4003, Research Seminar.....	3
Theory (6 hours required)	
Anth 4763, History of Anthropological Theory.....	3
Anth 4853, Archeological Issues.....	3
TOTAL HOURS.....	33

Minor Field

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

1063 (3 hours)

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.

1083 (3 hours)

American Society: A Multicultural Approach

American multiculturalism examined through the lens of the cultural heritage and contributions of major immigrant and ethnic groups (e.g., African, Asian, Hispanic, and Native Americans); draws on anthropological theory and method to analyze individual and social consequences of ethnic groups and multicultural discourse in the U.S. today.

2023 (3 hours)

Linguistics: 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 Lang 2023.

2033 (3 hours)

Human Development and Diversity: Physical Anthropology

Humans as biological and cultural organisms. Discussion of evolutionary theory, modern human variability, human skeletal analysis, monkey and ape behavior, and human evolution. Emphasis on the complex interaction of biology, culture, and environment.

2043 (3 hours)

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)

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)

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)

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.

3013 (3 hours)

Laboratory Archaeology

Basic analytical techniques of archaeological laboratory investigations, with emphasis on classification, analysis, and curation of lithic, ceramic, and bone artifacts; sediment analysis; drafting of site maps, profiles, and cross sections; and the computation of artifactual data. Prerequisite: 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 evidence for human evolution and diversification in the past. Models of the ancestry of man and the evolution of human characteristics are developed. Chronological, morphological, and cultural contexts of fossil forms are presented and evaluated. Prerequisite: Anth 2033.

3153 (3 hours)**Old World Prehistory**

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

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.

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.

3233 (3 hours)**Human Adaptation and Variation**

The history of racial studies, systems of racial classification, and human adaptation, both biological and cultural. Emphasis on environmental factors affecting human differentiation and the significance of human variations in both the present and the past. Prerequisite: Anth 2033.

3253 (3 hours)**New World Prehistory**

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.

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. Same as Rel 3443.

3453 (3 hours)**Law in Non-Western Societies**

The legal systems found in non-Western, pre-industrial societies, including those of American Indian, African, Pacific, and Asian peoples, with emphasis on the process of dispute settlement in decentralized societies that lack formal court systems. Both the structures of such systems and their underlying concepts of justice are examined. Prerequisite: Anth 1063 or 2043.

4003 (3 hours)**Research Seminar in Anthropology**

Students conduct and present findings from an independent research project. Readings and class discussion explore the conventions of the various traditions of anthropological research. Prerequisite: Anth 3013 or 4063.

4063 (3 hours)**Qualitative Research Methods**

Introduction to qualitative methods 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, 2053 or permission of instructor.

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, 2053 or permission of instructor.

4023 (3 hours)

The Politics of Cultural Representation

Foregrounds issues of cultural representation for indigenous peoples by highlighting perspectives, interests, and voices from traditional communities within colonial contexts of physical destruction, cultural assault, power differences, nationalism, and clashing world views. Examines representations in public discourse, including news media, Hollywood films, museum exhibits, and scholarly and popular writing. Prerequisite: Anth 2043, 2053 or permission of instructor.

4113-6 (3-6 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.

4213-6 (3-6 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.

4303-4393 (3 hours each)

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, and multi-disciplinary research techniques, depending on the interests of students and faculty. Course may be repeated for credit when topics vary. Prerequisite: Anth 2053.

4403-4493 (3 hours each)

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. Course may be repeated for credit when topics vary. Prerequisite: Anth 2043.

4503-4593 (3 hours each)

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.

4613-4693 (3 hours each)

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

Anthropological thought from the 19th century to the present is surveyed, 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.

4853 (3 hours)

Archaeological Issues

Introduces theoretical and practical issues confronting contemporary archaeologists. Students discuss methodological, theoretical, political, and logistical problems encountered by practicing archaeologists.

4863 (3 hours)

Contemporary Anthropological Problems

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

4991-3 (1-3 hours)

Independent Research

Prerequisite: Permission of instructor.

School of Art

Director

Stephen C. Sumner

Professors

Stephen C. Sumner

Virgil D. Lampton

Charles B. Tomlins

Associate Professors

M. Glenn Godsey

Thomas E. Martin

Assistant Professors

Whitney Forsyth

Keith Holz

Michelle Martin

Applied Associate Professor

M. Teresa Valero

The School of Art, School of Music, and Department of Theatre form the Division of Fine and Performing Arts, whose programs lead to professional careers in the arts and to the appreciation of the fine and performing arts.

The program in art offers the B.A. and B.F.A. degrees with emphasis in the studio areas of ceramics, graphic design, painting, photography, printmaking, and sculpture, and in the area of art history. Teacher certification in art is acquired by combining one of the programs listed above with a second major in education. (The education curriculum is outlined on pages 100-105.)

Art Curriculum

The program is designed to provide the art major with the breadth of knowledge, critical thinking, and technical and creative skills necessary for work in the art professions or graduate studies. The student may choose one of the following emphases: ceramics, graphic design, painting, photography, printmaking, sculpture, or art history. Upper division studio classes may be repeated for credit to fulfill requirements.

Studio Emphasis: B.A. or B.F.A.

Core Courses	B.A.	B.F.A.
Art 1103, Drawing I	3	3
Art 1113, Composition & Color	3	3
Art 2023, Drawing II	3	3
Art 3303, Life Drawing	3	3

Support Subjects

The following courses must be selected from outside the major subject area:

Art 2113, Painting I, or		
Art 2123, Printmaking I	3	3
Art 2133, Ceramics I, or		
Art 2103, Sculpture I	3	3
Art 2153, Photography I, or		
Art 3243, Graphics Communication I	3	3

	B.A.	B.F.A.
Upper Division		
(2000 level) Introduction to Subject of Emphasis	3	3
(3000-4000 level) Subject of Emphasis	9	15
(3000-4000 level) Upper Division Electives	6	15
TOTAL HOURS	36	51

Minor Area

ArtH 1203, Introduction to the Visual Arts	3	3
Nine hours of Art History, at least 6 of which must be upper division	9	9
TOTAL HOURS	12	12

Art History Emphasis: B.A.

Core Courses

ArtH 1203, Introduction to the Visual Arts3

Emphasis Subjects

Studio Art Electives (2 courses: one 2D and one 3D6

Art History Electives (7 courses)21

TOTAL HOURS30

Minor Area

In consultation with advisor, students choose 12 hours in a minor field, at least 6 of which must be upper division courses.

Art

1013 (3 hours)

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.

1103 (3 hours)

Drawing I

The development of fundamental observational skills and the basic visual language of drawing in a variety of media.

1113 (3 hours)

Composition and Color

Visual issues and ideas in a variety of modes and dimensions: drawing, color, three-dimensional studies, materials, tools, composition and exercises in form, aesthetics and concepts. Enhances perceptual and tactile sensitivity, technical facility, and creates understanding of creative processes while developing individual talents.

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.

2053 (3 hours)

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.

2103 (3 hours)

Sculpture I (Beginning Sculpture)

Introduction to personalized approach to making art in the third dimension. Information gathered by technical, historical, and genealogical research, and performance through applied artistic processes in various media.

2113 (3 hours)

Painting I

Introduction to basic oil painting or acrylic processes. Emphasis on form, light, and color through the study of still-life, the figure, interior and exterior spaces, and the artistic imagination.

2123 (3 hours)

Printmaking I

Introduction to the principal printmaking processes (intaglio, relief, lithography, and monotype.)

2133 (3 hours)

Ceramics I

Introduction to ceramic processes, materials, and concepts as a medium of expression for the study of form. Emphasis on wheel-thrown techniques.

2143 (3 hours)

Design I

Introduction to basic two- and three-dimensional design. Concepts of form, space, line, texture, value, and color are covered. Emphasis on design in the environment.

2153 (3 hours)

Photography I

The creative use of black and white photography through a basic study of the camera, exposure, photo processes, printing and presentation techniques, critical evaluation of photographic aesthetics, and photo history.

2263 (3 hours)

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 1103 or permission of instructor.

3013 (3 hours)

Sculpture Studio

Problems in figure modeling, with emphasis on life study. Attention to rhythm, movement, space, mass and volume through sculpting the human form in a variety of media. Final project: A bronze casting completed through the Lost Wax process.

3033 (3 hours)

Watercolor Studio

Problems in watercolor painting, with emphasis on composition, color, form and space. Basic and advanced techniques addressed as needed. Prerequisite: Art 1103, 1113, 2023, or permission of instructor.

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 1103, 1113, 2023, or permission of instructor.

3063 (3 hours)

Printmaking Studio

Intermediate level work in intaglio, lithography, monotype or relief. Prerequisites: Art 1103, 2123, or permission of instructor.

3072-3 (2-3 hours)

Crafts

Basic art media, tools, materials, and methods. Emphasis on individual expression, effective use of materials, and design. Open to elementary secondary, art education, education, recreation, and special education majors. Four hours lecture and laboratory per week.

3083 (3 hours)

Introduction to Museum Studies

Comparative study of selected museums, their role as cultural repositories and educational facilities. Areas of focus include museum operations, structure, and purpose. Field trips to major regional museums, lectures by museum professionals, and discussion.

3133 (3 hours)

Creative Arts for Elementary Teachers

ART-Basic fundamentals of art methods, art history, and philosophy to enable the elementary

teacher to build a broad, diversified program of art experiences in basic content areas. MUSIC-Basic skills activities, materials, methods, and philosophy of music.

3223 (3 hours)

Early Childhood Elementary Art Education

Theory, processes, and procedures for teaching early childhood elementary art education. Two hours lecture and two hours methods laboratory per week. Prerequisite: Admission to the teacher education program.

3232 (2 hours)

Art Education, Secondary

Theory, processes, and procedures for teaching art in secondary schools. Two hours lecture per week. Prerequisite: Admission to the teacher education program.

3243 (3 hours)

Graphic Communication I

Introduction to graphic design as a medium of communication. Techniques of pre-print production, with typographic, photographic, and illustrative elements within the conceptual framework of communication design. Exercises utilize computers, photostat, page/layout, drawing and photography programs to complete all artwork.

3253 (3 hours)

Graphic Communication II

Elements and principles of design graphics for print media. Advanced design problem solving through investigation and stimulation of student's personal graphic design ethic. Prerequisite: Art 1103 1113, 2023, 3243, or permission of instructor.

3263 (3 hours)

Computer Graphics

Problems involving computer techniques and the visual vocabulary of digital paint/draw programs. Students learn on the Macintosh IICx computer with the help of a video image grabber and digital image scanners. Assignments encourage inventive thinking and familiarize the student with the Macintosh graphic format. Prerequisite: Art 1103, 1113, or permission of instructor.

3273 (3 hours)

Typography and Graphic Production

Introduction to historical, formal, and applied aspects of typography; the design process; and production practices of conceptualization, layout, copy and execution. Copyfitting and specification of type as well as the analysis and synthesis of form, pattern, and texture in text and display settings. Prerequisite: Art 3243 or permission of instructor.

3293 (3 hours)

Packaging Design

Creating package designs and building models without expensive materials or a heavily equipped workshop. Activities stress common design studio problems and practices. Assignments investigate packaging in three-dimensional forms including advertising and promotional systems that involve students in analyzing problems and finding solutions. Prerequisite: Art 3243 or permission of instructor.

Art 3443 (3 hours)

Illustration: 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 move to layering and montage effects. Scanning, retouching, and manipulation of photos, drawings, and other images are used in illustration assignments and visual problem solving. Prerequisite: Art 1103, or permission of instructor.

3453 (3 hours)

Advertising Design

Professional selling strategies using print media. Principles and techniques of presenting copywriting and layout for a variety of products and services, with attention to newspaper and magazine campaigns, outdoor advertising, and direct mail. Prerequisite: Art 3243 or permission of instructor.

4012-6 (2-6 hours)

Sculpture Studio (varied emphasis)

Advanced problems utilizing tools, materials, and techniques of sculpture, with emphasis on individual and group problem solving of contemporary aesthetic issues. Projects may take the

form of site-specific performance art and the exploration of intermedia, interdisciplinary and intercultural art works.

4032-6 (2-6 hours)

Painting Studio

Advanced creative problems in painting, with emphasis on the composition and functions of color in achieving form and space. Six hours lecture and laboratory per week. Prerequisite: Art 2123.

4062-6 (2-6 hours)

Printmaking Studio

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

4152-6 (2-6 hours)

Photography Studio

Advanced creative problems emphasizing individual investigation of various photographic techniques and materials. Readings required. Prerequisite: Art 2153.

4182-6 (2-6 hours)

Ceramic Studio

Advanced problems in the use of clay as a medium of expression. Explorations include advanced glaze chemistry and research at various temperature ranges. Semester course emphasis is listed on schedule of courses. Prerequisite: Art 2133 or permission of instructor.

4422-6 (2-6 hours)

Design Studio

Advanced projects in design emphasizing individual projects. Prerequisite: Permission of instructor.

4902-6 (2-6 hours)

Internship

On-the-job training in a professional environment. The senior, on the recommendation of his or her advisor, may earn two to six hours credit. By arrangement only. Prerequisite: Permission of instructor.

4903-6 (3-6 hours)

Third Floor Designs Internship

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: Graphic Design junior or senior or permission of instruction.

4991-6 (1-6 hours)

Independent Study

Prerequisite: Permission of instructor.

Art History

1203 (3 hours)

Introduction to the Visual Arts

The principles of visual analysis and interpretation through the study of selected monuments and artists from the Parthenon to Picasso, emphasizing the communicative language of art and basic period styles in the history of art.

2033 (3 hours)

Native American Art

Introduction to some of the prehistoric and historic artistic traditions (in a multitude of media) of various North American cultural regions, including the Southeast, the Pueblo Southwest, California, the Northwest Coast, the Far North, and the Plains. Slide lecture and discussion.

2113 (3 hours)

Key Monuments in the History of Architecture

Selected representative monuments from ancient to modern architecture as keys to the prevailing values of each culture when seen within their social, political, philosophical, and aesthetic contexts. Slide lecture and discussion.

2123 (3 hours)

African Art

The arts of sub-Saharan Africa, focusing primarily on sculpture and masquerade in the context of leadership, social institutions, ritual, and religion, as well as individual aesthetic concerns. Slide lecture and discussion.

2213 (3 hours)

20th-Century Art

The isms of modern art, including Post-Impressionism, Cubism, Expressionism, Surrealism, Abstract Expressionism and Pop Art; the redefining

of the goals of art and the artist's role; concepts of the avant-garde; and the relationship between form and content in 20th-century abstraction and realism. Slide lecture and discussion.

3053 (3 hours)

Medieval Art

The transformation of late Roman motifs and symbolism in early Christian art, migration art and Anglo-Irish book illumination; the Carolingian and Ottonian revivals; and Romanesque and Gothic art. Media include architecture, sculpture, book illumination, stained glass and metalwork. Slide lecture and discussion.

3093 (3 hours)

American Art

Development of American painting, sculpture, and architecture from Colonial times through early 20th century, including American artists' reliance on (and independence from) European artistic traditions. Slide lecture and discussion.

3133 (3 hours)

Greek and Roman Art

Greek art from the Geometric period to the Hellenistic age, emphasizing the human figure in sculpture and vase painting, and the temple and city planning in architecture. The treatment of Roman art examines the manipulation of style for political purposes and unique Roman contributions to architecture and portraiture. Slide lecture and discussion.

3353 (3 hours)

History of Prints

Printmaking from 1400 to the present. Contribution of the print to the history of art and visual communication. Slide lecture, discussion, and studio experience.

4013 (3 hours)

Baroque and Rococo Art

The establishment of the Baroque style in painting, sculpture and architecture in Italy; its diffusion throughout Europe; and its transformation into the Rococo. Slide lecture and discussion.

4023 (3 hours)

Art Since 1945

Various modes of thought, expression, and practice in art from 1945 to the present. Slide lecture and discussion.

4313 (3 hours)

Italian Renaissance Art

Painting, sculpture, and architecture from the 14th-century innovations of Giotto to the death of Michelangelo in 1564. Emphasizes the intellectual and emotional meaning of perspective, the revival of antiquity, and the centrality of the sacred narrative in the dramatic, humanistic art of the Renaissance. Slide lecture and discussion.

4323 (3 hours)

Northern Renaissance Art

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

4353 (3 hours)

17th-Century Dutch and Flemish Painting

Begins with Rubens and the establishment of Baroque art in the Netherlands. The particular qualities of Dutch art and its specialized interests in genre, portraiture and landscape, with emphasis on Hals, Rembrandt, and Vermeer. Slide lecture and discussion.

4613 (3 hours)

19th-Century European Art

Developments in European art from the French Revolution to the late 19th century. Emphasis is primarily on French painting, with comparisons to contemporary developments in Spain, Germany and England. Slide lecture and discussion.

4803 (3 hours)

Special Topics in the History of Art

Seminar on a particular topic such as the work of an individual artist, group of artists, or a particular style, movement, or theme in the history of art. Slide lecture and discussion.

4993 (3 hours)

Independent Study

Research conducted under faculty guidance on a specific problem in the history of art. Prerequisite: Permission of instructor.

Arts Management

Director

Ron Predl

Professor of Music

The arts management curriculum outlined below provides a 56-credit-hour interdisciplinary program in arts management, business, performing arts and an area of artistic specialization in art, 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 in which they practically apply the concepts and techniques learned in the classroom. Semester internships may be completed locally, regionally, nationally, and/or through special arrangements with the Diorama Arts Centre in London, England.

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 not required to have a minor.

Hours

AM 1013, 1023, Introduction to Arts Organizations I, II.....	3
2113, Public Communication or	
3433, Principles of Advertising.....	3
AM 3011, 3021, 3031, Arts Practicum I, II, III.....	3
(One each Music, Theatre, Art)	
AM 3013, 3023, Arts Administration I, II.....	6
Com 3483, Principles of Visual Communication or.....	
4813, Analysis of Media.....	3
AM 4613-23, Arts Internship I, II.....	6
AM 4973, Senior Seminar (independent study project).....	3
Students complete one artistic specialization track in Visual Art, Music or Theatre.	

Visual Art Track.....18 hrs.

1110, Arts Experiences (2 semesters)	
2053, Icons and Images.....	3
3083, Introduction to Museum Studies.....	3
3243, Graphic Communication I.....	3
Studio Art and/or Art History Elective.....	9

Music Track.....18 hrs.

1110, Arts Experiences (2 semesters)	
2000, Music Theory/Ear Training.....	1-6
3000-level, Music History and/or.....	3-6
3-4000-level, Music Literature.....	3-6
Ensemble.....	1-3
Applied Music.....	1-2
Electives.....	6

Theatre Track	18 hrs.
1110, Arts Experiences (2 semesters)	
2011, Stage Management.....	1
2021, A Cultural History of Theatre.....	1
2333, Acting or.....	3
2352, Stagecraft.....	2
3043, Modern Theatre: History and Lit.....	3
3000,4000 Electives.....	4-8

Generalist Track: 18 hrs. (with permission and direction of advisor).

Arts Experiences Attendance Requirement: 6 semesters

Includes a total of six (6) required semesters (in addition to the 2 semesters required in the Art Track) of visitation, attendance and/or participation in gallery events, art exhibitions, theatre productions and various musical performances.

Students are required to take the following Block courses:

Designated Block I Requirement: 6 hrs.*

1013, The Theatre Experience or	
1063, The Broadway Musical.....	3
1203, Introduction to the Visual Arts.....	3
2073, Musical Experience.....	3

*Music Track take 1063, 1203; Art Track take 1013 or 1063, 2073; Theatre track take 1203, 2073 (not counted as hours in the major).

Designated Block II Requirement: 3 hrs.

1013, Bus, Business and Society.....	3
(not counted as hours in the major)	

Arts Management students are required to declare a Business Minor.

Required Business Courses: 15 hrs.

Mis 1123, Business Information Technology.....	3
Acct 2113, Concepts of Accounting.....	3
Mgt 3003, Principles of Management.....	3
Mkt 3003, Principles of Marketing.....	3
Mkt 4053, Entrepreneurship (includes Grant Writing).....	3

Communication

Chair

John M. Coward

Professor

Joli Jensen

Associate Professors

John M. Coward
Robert J. Doolittle

Assistant Professors

Linda K. Dobbs
Lori Peterson
Joseph Schmitz

Applied Faculty

David L. Moncrief

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 organizational communication, public relations and advertising, video production, news and entertainment media, 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 lay a solid foundation in communication, covering topics ranging from symbolic processes and systems to theories and philosophy of communication research. Every major must take five required and elective courses within one of two emphases: organizational communication or mass communication. To complete the major, students choose two or three electives from any courses in the communication curriculum.

Major Subject

Basic Courses

Com 2013, Communication Systems.....	3
Com 3103, Theories of Communication.....	3
Com 3113, Inquiry in Communication.....	3
Emphasis in the Major (Organizational or Mass Communication).....	15
Analytical Methods (Choose one of two available)	3
Electives Communication Electives	9
TOTAL HOURS.....	36

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.

1103 (3 hours)**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.

2623 (3 hours)**Communicating Across Cultures**

An introduction to problems and opportunities encountered in interacting with people from other cultures. Focuses on linguistic and non-verbal behaviors and on strategies for adapting to differences that appear in face-to-face encounters.

2723 (3 hours)**Native Americans and the Popular Imagination**

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

2893 (3 hours)**Media and Popular Culture**

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

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**

Surveys 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 modes of inquiry with actual research and analysis of published literature. Prerequisite: Com 2013.

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.

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.

3353 (3 hours)

Political Communication

Examination of political discourse in America. Focuses on the ways communication constrains political options and creates and recreates political culture.

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.

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.

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.

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.

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 for clients. Emphasizes problem analysis, goal setting, planning, and awareness of multiple roles of assessment and evaluation in all areas of practice. 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. Two hours lecture and two hours lab each week.

3743 (3 hours)

Communication Among Cultural Groups

Interpersonal communication among participants who display observable cultural differences: e.g., gender, ethnicity, and sub-cultural, cultural, and national identities. Methods of enhancing intercultural communication.

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 the arts of memory, 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.

3913 (3 hours)

Introduction to Organizational Communication

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

3923 (3 hours)

Communication within Organizations

Explores the interaction patterns and internal life of organizations. Topics include basic organizational communication research, dominant organizational metaphors, selected theories of organizational communication, organizational culture, and communication audits. Prerequisites: Com 2013, or permission of instructor.

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: Com 3913 or corequisite, 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.

4323 (3 hours)

Critical Analysis of Communication

Approaches to the criticism of oral messages, including analysis of the assumptions, implications, and potentials of each critical perspective. Emphasis on the analysis of public and mass communication. Prerequisite: Com 3113, or permission of instructor.

4613 (3 hours)

Internship

Applies academic knowledge and skills in approved organization on or off campus, as per written agreement among student, faculty supervisor, and sponsoring organization. Settings include media production, media relations, employee relations, human resource development, public relations, advertising and political campaigns. 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.

4843-4893 (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 3133, 3913.

4973 (3 hours)

Senior Seminar

Investigation of topics of current interest in the field of communication study and practice. Students should consult Communication office for announcement of topics in a particular semester. Prerequisite: Senior standing.

4981-3 (1-3 hours)

Independent Research

For advanced undergraduates who wish to pursue their own program of research by specifying a problem, gathering and analyzing data, and producing a report under faculty guidance. Also available for work as part of a research team. Prerequisites: Advanced standing and availability of an instructor to sponsor and evaluate the project.

4991-3 (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

Professor

Karen Patterson

Associate Professor

William Jack Foreman

Assistant Professors

Sharon Baker

Paula Cadogan

Lori Davis

Clinical Instructors

Jody Chesser

Karen Croley

Janice A. Fonkalsrud

Mary H. Moody

The Communication Disorders faculty offer curricula leading to bachelor's degrees in deaf education and in speech-language pathology. The goal is to produce highly qualified graduates to educate individuals who are deaf or hard of hearing and to prepare the student of speech-language pathology for graduate study.

Admission/Retention Requirements

Students qualifying for admission to the university are admissible to these programs. Retention requires majors to earn at least a grade of C in all program courses taken. Courses may be repeated, if necessary, to meet this requirement. Students with major course grades lower than C are ineligible to participate in practicum until deficiencies are corrected. Failure to pass the practicum course will result in non-recommendation for graduate speech-language pathology study.

Certification

The programs in speech-language pathology and deaf education 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 certification by the State of Oklahoma and by the Council on Education of the Deaf (CED).

The Tulsa Curriculum

The Tulsa curriculum is designed to help students understand and appreciate several kinds of knowledge in addition to a specialty. To meet specific certification requirements, speech pathology majors take Psy 2063 and/or Educ 3713 and Lang 2023 (Block II). Students receiving the B.S. degree in Speech Pathology must also take a First Seminar and complete a formal writing course (Engl 1003), a mathematics course (Math 1093), and a basic course in statistics (Soc 2023 or Stat 2013). Speech pathology students must also take a Senior Seminar class. Deaf education majors complete 49 semester hours in the Tulsa Curriculum.

Deaf Education

The deaf education program prepares qualified teachers of deaf and hard-of-hearing school children grades N-12. Students may select a particular age group and subject area in which to concentrate at either the elementary or the secondary level. Students seeking national CED certification must complete a minimum of 20 semester hours in an additional certifiable area of concentration, which could be regular elementary education, or any subject matter in secondary education. This comprehensive program focuses on the development and use of American Sign Language. Appropriate attention is given to the teaching of speech. Therefore, students must acquire knowledge of and demonstrate acceptable competency in all appropriate aspects of communication related to the education of the deaf. Admission to teacher education in Oklahoma requires an overall GPA of 2.50, in addition to other requirements (pp. 100-105).

Specialization Courses

	Credits
CDDE 1003 American Sign Language I	3
CDDE 1013 American Sign Language II	3
CDDE 2003 American Sign Language II.....	3
CDDE 2013, American Sign Language IV	3
CDSP 2023 Normal Language Development.....	3
CDDE 2383 Orientation to Deafness.....	3
CDAU 3203 Introduction to Clinical Audiology	3
CDSP 4033 Infants and Toddlers At-risk*.....	3
CDDE 3181 Practicum: Deaf Education.....	1
CDDE 3281 Practicum: Deaf Education.....	1
CDDE 3381 Practicum: Deaf Education.....	1
CDDE 4073 Aural Rehabilitation.....	3
CDDE 4313 Teaching Language to the Deaf	3
CDDE 4333 Teaching Reading to the Deaf	3
CDDE 4353 Teaching Speech to the Deaf	3
Area of Concentration.....	9 - 15 hours of electives
TOTAL.....	45

*Optional

Professional Education (Required for Certification)

	Credits
Educ 1101, Introduction to Education.....	1
Educ 2104, Foundations of Education.....	4
Educ 3713, Child and Adolescent Development.....	3
Educ 3733, Measurement and Evaluation in Education.....	3
Educ 4013, Education of Exceptional Children and Youth.....	3
Educ 4971, Seminar in Student Teaching.....	1
CDDE 4343, Methods of Teaching Content Subjects to Deaf Children.....	3
CDDE 4516, Elementary Student Teaching in Deaf Education.....	6
CDDE 4536, Secondary Student Teaching in Deaf Education.....	6
TOTAL.....	30

Minor

Students take a minimum of 12 credit hours with two lower and two upper division courses from the following list for a minor in deaf education.

- CDDE 1003, American Sign Language I
- CDDE 1013, American Sign Language II
- CDDE 2003, American Sign Language III
- CDDE 2013, American Sign Language IV
- CDDE 2383, Orientation to Deafness
- CDDE 4073, Aural Rehabilitation
- CDDE 4333, Teaching Reading to the Deaf
- CDDE 4314, Teaching Language to the Deaf
- CDDE 4354, Teaching Speech to the Deaf

Speech-Language Pathology

The bachelor's degree in speech-language pathology is a pre-professional program that provides necessary 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 work starting in the junior year. Students enrolled in Clinic II must attend a pre-fall or pre-spring semester clinic procedures meeting. Majors also complete a 12-hour minor in consultation with their advisors.

Speech-language pathology students must also complete seven credit hours of professional education courses (Educ 2104, Educ 4013) at the undergraduate level and a master's degree in speech-language pathology for State of Oklahoma school certification.

Area of Concentration**Credits**

CDAU 3203, Introduction to Clinical Audiology	3
CDAU 3181, Clinical Audiology Laboratory.....	1
CDDE 4073, Aural Rehabilitation.....	3
CDSP 1013, Introduction to Communication Disorders.....	3
CDSP 2023, Normal Language Development.....	3
CDSP 2063, Speech and Hearing Science.....	3
CDSP 2113, Articulation and Phonological Disorders.....	3
CDSP 2533, Methods of Managing Exceptional Children.....	3
CDSP 3033, Introduction to Language Disorders.....	3
CDSP 3053, Anatomy and Physiology of Speech and Hearing.....	3
CDSP 3182, Clinic I: Methods.....	2
CDSP 3202, Phonetics.....	2
CDSP 3201, Phonetics Laboratory.....	1
CDSP 3281, Clinical Practicum II: Speech-Language Pathology.....	1
CDSP 4113, Clinical Neurology.....	3
CDSP 4163, Evaluation of Speech and Language Disorders.....	3
CDSP 4973, Senior Seminar.....	1
TOTAL.....	43

Minor

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 Pathology.

- CDSP 1013 Introduction to Communication Disorders
 - CDSP 2033 Normal Language Development
 - CDSP 2063 Speech and Hearing Science
 - CDSP 3033 Introduction to Language Disorders
 - CDSP 3053 Anatomy and Physiology of Speech and Hearing
 - CDSP 3203 Introduction to Audiology
-

Audiology (CDAU)

3181-3 (1-3 hours)

Clinical Audiology Laboratory

Practice in use of audiometric equipment for screening hearing loss.

3203 (3 hours)

Introduction to Clinical Audiology

Physics of sound, anatomy and physiology of the hearing mechanism, pathologies, and basic measures of hearing acuity.

Deaf Education (CDDE)

1003 (3 hours)

American Sign Language I

Knowledge and skills for reading and executing a basic vocabulary of manual signs and the finger spelling alphabet. Expressive and receptive skills are stressed with emphasis on educational settings. The use of American Sign Language (ASL) conceptual signs within the framework of the ASL grammar system is emphasized.

1013 (3 hours)

American Sign Language II

Concentrated study of the grammar and basic concepts of ASL. Emphasis on both receptive and expressive signing skills with additional study of the cultural aspects of the deaf community.

2003 (3 hours)

American Sign Language III

Practice in use of ASL grammatical rules and theory to increase expressive and receptive signing skills. Targeted vocabulary, finger spelled items, narratives, dialogues, and demonstration of non-manual behaviors provide appropriate understanding of and opportunities for practice in the grammatical features of the language.

2013 (3 hours)

American Sign Language IV

Development of communicative competence using ASL. Emphasis on activities and strategies for giving instruction in deaf culture, language behaviors, values, and norms, ASL grammar, finger spelling, numbers, and classifiers. Group and individual work build rapport, self-confidence, and skill in using ASL.

2383 (3 hours)

Orientation to Deafness

Introduction to the history of education and the culture of the deaf from ancient times to the present. Classification and causes of deafness. Psychological problems resulting from this communication handicap and how these relate to family, education, and the success or failure of adult deaf in society.

3181, 3281, 3381 (1 hour each)

Practicum: Deaf Education

Three consecutive semesters, beginning with 3181 in the junior year fall semester. Observations and supervised participation with groups or individuals. Requires three clock hours per week: Two hours school observation and participation plus one hour interacting with deaf adults for 45 clock hours per course. Prerequisites: CDDE 1003, 1013, 2003, 2013, and 2383, or permission of instructor.

4073 (3 hours)

Aural Rehabilitation

Methods for teaching speech reading and auditory skills to deaf and hearing-impaired individuals and groups. Consideration is given to student age, etiology, degree of hearing loss, evaluation techniques, training implementation, skills maintenance, and assistive intervention. Prerequisite or corequisite: CDAU 3203

4313 (3 hours)**Teaching Language to the Deaf**

Vocabulary and language development from preschool to adulthood. Theories of language acquisition, remediation design for hearing loss, onset age, etiology, educational experience; language concepts for school subjects, home life, and parent counseling; diagnosis; cognition and language development; and assessment, individual planning, and prescriptive teaching. Historical and current structured systems.

4323 (3 hours)**Teaching Reading to the Deaf**

Methods of teaching reading to the deaf and hard-of-hearing, primary through advanced grades. Emphasis is on reading problems relative to subject areas, improvement of communication skills between student and teacher, and effective use of teaching aids applied to the N-12 curriculum.

4343 (3 hours)**Methods of Teaching Content Subjects to the Deaf**

Methods of teaching arithmetic, social studies, and science to deaf and hard of hearing children in primary, intermediate and advanced grades. Emphasis is on the problems related to the content of each subject, the improvement of student and teacher communication skills, and the use of audio-visual aids. Prerequisite: CDDE 4333

4353 (3 hours)**Teaching Speech to the Deaf**

Philosophy and background. Emphasis on IPA and Visual Phonics use and elementary speech sound development. Descriptive analysis of syllables and words. Examination of recent research. Identifying methods of teaching speech, program content evaluation, and creation of individual programs/lessons. School placement options and personnel roles.

4516 Elementary Deaf Education Student**Teaching (6 hours)****4536 Secondary Deaf Education Student****Teaching (6 hours)**

Directly supervised teaching experience in classes for the deaf and hard-of-hearing; equally distributed between elementary and secondary levels. One-half is at a residential school for the deaf. Students must enroll in both 4516 and 4536 to meet the 12-semester-hour requirement. Prerequisites: A completed student teaching application and final approval of the Teacher Education Program.

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**

A detailed investigation of the normal processes of language development by children.

2063 (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.

2113 (3 hours)**Articulation and Phonological Disorders**

Normal phonological development is presented. Assessment and treatment of articulation and phonological disorders are described. Prerequisites: CDSP 3202 Phonetics and CDSP 3201 Phonetics Laboratory

2533 (3 hours)

Methods of Managing Exceptional Children

Techniques for managing difficult behaviors in clinic or classroom settings.

3033 (3 hours)

Introduction to Language Disorders

An overview of language disorders in children and adolescents. Models of language assessment and management will be presented. Prerequisite: CDSP 2023

3053 (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.

3182 (2 hours)

Clinic I: Methods

Class discussion, observation and assigned readings prepare the student for direct clinical practice with individuals who have communication disorders.

3201 (1 hour)

Phonetics Laboratory

Practice in the use of International Phonetic Alphabet symbols and diacritical marks to transcribe normal speech production, dialectical variations, and misarticulations.

3202 (2 hours)

Phonetics

English speech sound production and use of the corresponding International Phonetic Alphabet symbols and diacritical marks for transcription.

3281 (1 hour)

Clinical Practicum II: Speech-Language Pathology

Supervised clinical experience with clients attending the university's speech and hearing clinic. Prerequisites: CDSP 2113, 3033, 3181

4033 (3 hours)

Infants and Toddlers at Risk

The development, assessment and management of infants and toddlers at risk. Family issues and writing the IFSP are also considered.

4113 (3 hours)

Clinical Neurology

Provides a solid understanding of the anatomy and physiology of the human nervous system as a framework for understanding normal and abnormal speech, language and hearing processes.

4163 (3 hours)

Evaluation of Speech-Language Disorders

Students will be immersed in the techniques of clinical diagnosis related to speech and language disorders.

4971-3 (1-3 hours)

Senior Seminar

Selected topics of current interest in the field of communication disorders. Prerequisite: Senior status

4991-3 (1-3 hours)

Independent Study

Prerequisite: Permission of instructor.

Economics

Chair

Steve B. Steib

Associate Professors

Bobbie L. Horn

Cadwell L. Ray

Allen R. Soltow

Professor

William M. Dugger

Steve B. Steib

Assistant Professors

Chad E. Settle

The Economics Department offers two curriculum options: B.A. or B.S. Students should consult an economics faculty advisor to select the appropriate program.

B.A. Program**Major Subject**

Econ 2013, Macroeconomics.....	3
Econ 2023, Microeconomics.....	3
Econ 3023, Macroeconomic Theory.....	3
Econ 3033, Microeconomic Theory.....	3
Econ 4053, History of Economic Theory.....	3
Math 1164, Pre-Calculus*.....	3
Stat 2013, Introduction to Statistics, or	
Soc 2023, Statistics of Social Sciences.....	3
Engl 3003, Writing III.....	3
Economics electives (at least 9 hours at the 3000-4000 level).....	12
TOTAL HOURS	36

Minor Field

The minor field consists of 12 hours with at least 6 hours at 3000 or 4000 level.

B.S. Program**Major Subject**

Econ 2013, Macroeconomics.....	3
Econ 2023, Microeconomics.....	3
Econ 3023, Macroeconomic Theory.....	3
Econ 3033, Microeconomic Theory.....	3
Econ 4053, History of Economic Theory.....	3
Math 2014, Calculus I*.....	4
Math 2024, Calculus II*.....	4
CS 1013, Fundamental Principles of Computing*.....	3
Stat 2013, Introduction to Statistics*.....	3
Stat 3813, Introduction to Statistical Methods.....	3
Economics electives (3000-4000 level).....	9

TOTAL HOURS.....41

Minor Field

The minor field consists of 12 hours with at least 6 hours at 3000 or 4000 level

*Some courses in the core and general curricula may be restricted. See the Arts and Sciences Office of

Advising for a detailed description of degree requirements.

**1013 (3 hours)
Economics of Social Issues**

An introduction to the application of economic thinking to current social issues. This course is intended for students who have never had a course in economics.

**2013 (3 hours)
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)
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.

**3013 (3 hours)
Monetary Economics**

Monetary systems and their operation, the role of central banks, monetary theory, and monetary policy. Prerequisite: Econ 2013.

**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 2013.

**3033 (3 hours)
Microeconomic Theory**

Price determination, consumer behavior, theory

of the firm, market structures, and resource allocation. Prerequisite: Econ 2023.

**3043 (3 hours)
Managerial Economics**

The application of micro- and macroeconomic theory and statistics to problems in managerial decision making. Prerequisite: Econ 2013, QM 2023, or permission of instructor.

**3053 (3 hours)
Public Sector Economics**

Institutional and theoretical treatment of the role of the public sector, including economic stabilization, public goods, and taxation. Prerequisite: Econ 2013 or 2023.

**3063 (3 hours)
Labor Economics**

Analytical, empirical, and policy approach to micro- and macroeconomic aspects of labor market behavior. Prerequisite: Econ 2013 or 2023.

**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 2013 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, environ-

mental quality, and poverty reduction are crucial. Prerequisite: Econ 2013, 2023.

3123 (3 hours)

Environmental Economics

The historical and theoretical study of the resource base and environmental capacity for worldwide economic growth and development. Prerequisite: Econ 2013, Econ 2023.

4053 (3 hours)

History of Economic Thought

Survey and analysis of the evaluation of economic theory from the 1700s to the present. Prerequisites: Six hours of economics.

4073 (3 hours)

Applied Economic Analysis

The application of the tools of economic theory and statistical methods in estimating and forecasting such things as demand, production, envi-

ronmental impact, and cost/benefit ratios. Prerequisites: Six hours of economics.

4163 (3 hours)

Policy Analysis

Provides analytic concepts and tools for understanding public policy and for analyzing specific public 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.

4973 (3 hours)

Seminar in Economics

A critical study of selected topics in economics. Prerequisites: Six hours of economics.

4991-3 (1-3 hours)

Independent Study

For students majoring or minoring in economics.

Prerequisites: Senior standing and permission of instructor.

School of Education

Dale Johnson

Director

Dale Johnson

Associate Professor

Shirley N. Robards

Professors

Warren L. Hipsher, Jr.

Assistant Professors

Diane Beals

David E. Brown

The university is a member of the American Association of Colleges for Teacher Education (AACTE), and has program accreditation by the National Council for the Accreditation of Teacher Education (NCATE) and the Oklahoma Commission on Teacher Preparation (OCTP).

Joint Advisement

Students are advised in the Tulsa Curriculum through the Arts and Sciences Office of Advising, in their areas of concentration by their major advisors, and in professional education and certification by the faculty of the School of Education.

Limitations on Transfer Credit

Transfer credit in professional education may be accepted from four-year institutions that are accredited by the National Council for the Accreditation of Teacher Education (NCATE) and approved by the Teacher Certification Office of the School of Education.

Conceptual Framework for Teacher Education

All programs in education, both initial and advanced, are designed to prepare teachers and other education specialists for their professions within a framework that is competency based. The purpose of this framework is to guide the education of teachers and other education specialists who are reflective practitioners and who model best professional practices. Students are educated in traditions of the liberal arts and sciences and according to the highest standards of the professional community. The framework is grounded in a philosophy that places the student at the center of learning and values the indispensable role of the teacher in the learning process. Elaboration on this conceptual framework for the design of teacher education programs is available in the Teacher Education Handbook.

General Objectives for Teacher Education

The conceptual framework forms the basis for the general objectives of all programs in teacher education, both initial and advanced. These general objectives include the following:

- The student will be educated in the liberal arts and sciences as defined by the Tulsa Curriculum.
- The student will demonstrate the special knowledge and methods of inquiry associated with a specific academic discipline sufficient to reveal an understanding of the structure and order of ideas within that discipline.
- The student will demonstrate an understanding of the interdisciplinary nature of

knowledge.

- The student will demonstrate by application in clinical or school settings the professional knowledge associated with best teaching or clinical practices with regard to assessment of learning and planning and implementing instruction. (Competencies for each program have been established and are available from education advisors.)
- The student will demonstrate exemplary professional conduct in school or clinical settings.

Licensure/Certification Options. Students interested in becoming teachers have four options at The University of Tulsa:

Option I: Secondary School Teacher. Students majoring in biology, chemistry, English, geology, history, mathematics, physics, political science, or theatre have the option of becoming licensed/certified to teach in grades six through twelve.

Option II: Elementary School Teacher. Elementary teacher certification in grades one through eight is available. Students may major in elementary education in conjunction with an academic minor consisting of a minimum of 12 semester hours. Options for minors include programs resulting in middle school (grades 5-9) certification in language arts, mathematics, science, and social studies.

Option III: Elementary-Secondary School Teacher. Students enrolled in the College of Arts and Sciences and majoring in art, music, French, German, and Spanish have the option of becoming licensed/certified to teach in grades kindergarten through twelve.

Option IV: Special Education Teacher. Deaf education and speech-language pathology majors in the College of Arts and Sciences become licensed/certified to teach in grades kindergarten through twelve. Speech pathology certification requires completion of a master's degree (see Graduate Bulletin).

Admission. Students normally apply for admission to teacher education no later than the second semester of their junior year. Application for admission is normally made when the student is enrolled in Educ 2104, Foundations of Education. Junior and senior transfer students and students with baccalaureate degrees seeking teacher certification should apply during their first semester on campus.

Admission Criteria

- Cumulative GPA of 2.50 in 45 semester hours.
- GPA of 3.00 in 30 hours of Tulsa Curriculum, or
 - 1) 20 on ACT, or
 - 2) 1000 on SAT composite (verbal and quantitative), or
 - 3) 1000 on GRE composite (verbal and quantitative), or
 - 4) passing scores on Oklahoma General Education Test (OGET) as established by Oklahoma Commission on Teacher Preparation, or
 - 5) passing scores on the Writing, Reading, and Mathematics sections of the Pre-Professional Skills Test (PPST).
- Recommendation of education advisor attesting to demonstration of previous successful experiences working with children or adolescents.
- Grade of C or higher in Engl 1033 and FS 1973.
- Grade of C or higher in Educ 1101 and 2104.
- Satisfactory review of teaching portfolio by education advisor.

Student Teaching. Students must meet admission criteria for teacher education before making application for admission to student teaching. Students must reserve one semester for student teaching and the student teaching seminar.

Criteria for Admission to Student Teaching

- Previous admission to teacher education program.
- Cumulative 2.50 GPA in 90 semester hours.
- GPA of 2.50 in Educ 1101, 2104, 3713, 3733
- GPA of 2.50 in courses required for the subject area of specialization (i.e., courses required for the major).
- Recommendation of subject area advisor attesting to satisfactory progress in completing the sequence of courses required for subject area of certification.
- Recommendation of education advisor attesting to satisfactory performance in all field experiences, at least one of which must be in a multicultural setting, and satisfactory progress in completing the sequence of courses required for professional education.
- Statement of awareness of Oklahoma law requiring no court conviction of felonies and/or crimes of moral turpitude during the ten-year period preceding application for teaching licensing and awareness of HB 1706 regulations.
- Satisfactory review of the teaching portfolio by the Admission and Retention Committee.

In addition to meeting the above criteria, transfer students and students with baccalaureate degrees seeking certification must have completed eight hours at The University of Tulsa, including a course in professional education and a course in their teaching field.

Student Teaching Placement. For first semester placement in student teaching, students should make formal application by March 1 of their junior year. For second-semester placement, application should be made by October 1 of the senior year.

Application forms, available in the School of Education, third floor of Chapman Hall, should be completed with the assistance of an education advisor and filed with the Coordinator of Field Experiences following the orientation meeting at the beginning of each semester. Placement and university supervisors are confirmed in the second orientation meeting during the last week of classes of each semester.

Senior transfer students and students with baccalaureate degrees seeking certification should apply immediately after their admission to the university.

Professional Examinations. Prospective teachers in Oklahoma must pass appropriate units of the Oklahoma Teacher Certification Testing Program (OTCTP) to be eligible for licensure/certification. Complete information and registration bulletins are available from the School of Education.

Criteria for approval to register for the OTCTP examinations include the following:

- Approval to register for the Oklahoma General Education Test (OGET) requires completion of the Tulsa Curriculum.
- Approval to register for the Oklahoma Professional Teaching Examination (OPTE) requires admission to student teaching and completion of the professional education sequence, including completion of student teaching or concurrent enrollment.
- Approval to register for the Oklahoma Subject Area Test (OSAT) requires admission to student teaching and completion of all courses required in approved program for the subject area.

Professional Licensing. During their last semester, students who have passed the appropriate state examinations should make application for a license to teach in Oklahoma. Changes in regulations can result in changes in professional licensing/certification requirements.

- Baccalaureate degree with a cumulative GPA of 2.50 or higher.
- Completion of the appropriate approved program(s) for the area(s) of specialization in

which licensing or certification is sought.

- Completion of student teaching with no grade lower than C and with an average of at least 2.50 or higher in all student teaching courses. (Students who do not receive a C or higher in a student teaching course may petition the Teacher Education Council to repeat student teaching).
- Satisfactory review of the teaching portfolio.

Professional Education

Elementary Education

Educ 1101, Introduction to Education
 Educ 2104, Foundations of Education
 Educ 3713, The Child/Adolescent and the Learning Environment
 Educ 3733, Measurement and Evaluation in Education
 Educ 4013, Education of the Exceptional Child
 Educ 4616, Student Teaching in Elementary School
 Educ 4626, Student Teaching in Middle School*
 Educ 4971, Seminar Student Teaching

*Student may opt for a second placement in elementary grades, in which case he or she enrolls in Educ 4616 two times.

Secondary Education

Educ 1101, Introduction to Education
 Educ 2104, Foundations of Education
 Educ 3713, The Child/Adolescent and the Learning Environment
 Educ 3733, Measurement and Evaluation in Education
 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 Student Teaching

*Mathematics education major may substitute Math 4222 and Educ 4221 for Educ 4214.

Elementary-Secondary Education

Educ 1101, Introduction to Education
 Educ 2104, Foundations of Education
 Educ 3713, The Child/Adolescent and the Learning Environment
 Educ 3733, Measurement and Evaluation in Education
 Educ 4013, Education of the Exceptional Child
 Special Teaching Methods (see note)*
 Educ 4616, Student Teaching in Elementary School
 Educ 4626, Student Teaching in Middle School
 Educ 4636, Student Teaching in Senior High School
 Educ 4971, Seminar Student Teaching

*Note on Special Teaching Methods:

Art education majors complete Art 3113 and 3232 and Educ 4221.

Music education majors complete Mus 3163 and 4363 and Educ 4221.

French, German, and Spanish education majors complete Lang 4003 and Educ 4214.

**Note on Student Teaching:

Art majors complete Educ 4616 and 4636.

Vocal music majors complete Educ 4616 and 4636.

Instrumental music majors complete 4626 and 4636.

Language majors complete Educ 4616 and 4636.

Deaf Education

Same Professional Education sequence as Elementary Education.

Elementary Education Major

Students preparing to teach in the elementary grades complete requirements for the bachelor of arts degree. The program consists of four discrete parts: 1) the Tulsa Curriculum; 2) the Professional Education Program; 3) the major in Elementary Education; and 4) a minor in an academic discipline.

Regulations of the Oklahoma Commission on Teacher Preparation require a diversified program in the liberal arts and sciences for students admitted to teacher education after September 1, 1997. Stated briefly, the requirement stipulates that candidates for licensing in Elementary Education and Special Education (including Deaf Education) must complete 48 semester hours of credit evenly distributed among four areas: 1) language arts, 2) social studies, 3) mathematics; and 4) science. The courses may not be methods courses. The commission's regulation allows that courses satisfying this requirement may be included in either the general education program, the major, a minor, or any combination. The University of Tulsa program in Elementary Education includes the following competencies:

- **The Tulsa Curriculum (48 hours)**

Students complete the same requirements for the Tulsa Curriculum as all students completing the bachelor of arts degree. The student teaching semester, consisting of the full-time and semester-long student teaching experience and the seminar, satisfies the senior seminar requirement. While not required, certain courses are recommended for block course credit in recognition of subject matter that the student will be responsible for knowing on the licensing exams. Pol 1003 or Pol 2053 and Hist 2503 are recommended for Block II. Biol 1023 or Biol 1033 and Phys 1003 or Phys 1004 are recommended for Block III.

- **Elementary Education (42 hours)**

Liberal Arts and Sciences (21 hours)

Math 1053, College Algebra, Math 1093, Mathematics with Applications or Math 1103,
Basic Calculus

Stat 2013, Introduction to Statistics, or Soc 2023, Statistics for Social Sciences

Math 4863, Special Topics in Mathematics

Chem 4863, Special Topics in Chemistry

Geol 1033, Earth's Physical Environment, or Geol 1014, Physical Geology

Educ 3103, Children's Literature

Thea 2133, Creative Dramatics

Elementary Education (21 hours)

Educ 3133, Creative Arts for Elementary Children

Educ 3303, Writing and Language Development
 Educ 3313, Reading for Elementary Children
 Educ 3323, Literacy Assessment and Intervention
 Educ 4123, Science for Elementary Children
 Educ 4133, Mathematics for Elementary Children
 Educ 4143, Social Studies for Elementary Children

• **Academic Minor (12 hours)**

Students complete a minor consisting of 12 semester hours, with six hours upper division credit. Minors include the following academic disciplines: anthropology, art, biology, chemistry, communication, computer science, deaf education, economics, geology, English, history, languages (American Sign Language, Cherokee, French, Latin, German, Russian, Spanish), mathematics, music, philosophy and religion, physics, political science, psychology, science (interdisciplinary), sociology, and theatre. Other programs for minors may be approved by the curriculum committee.

• **Professional Education Sequence (27 hours)**

Elementary education students complete the same professional education sequence as all students in teacher education, except that they are not required to complete Educ 4214, Middle and Secondary School Teaching Methods.

Second Language Proficiency. Students completing the Teacher Education Program must demonstrate proficiency in a second language. Options for completing this requirement include the following:

- Pass the Novice Oral Language Assessment (NOLA) administered by the Oklahoma Foreign Language Teachers Association;
- Complete a language course offered by The University of Tulsa (American Sign Language, Cherokee, French, German, Latin, Russian, Spanish) numbered 2013 with a grade of C or 2003 with a grade of B or 1014 with a grade of A.

Professional Education

1101 (1 hour)

Introduction to Education

Orientation to careers in teaching and the teacher education program. Includes 20 clock hours of field experience. Required for admission to teacher education program.

2104 (4 hours)

Foundations of Education

The historical, philosophical, and sociological foundations of the development and organization of education presented in the context of contemporary issues. Required for admission to teacher education program.

3713 (3 hours)

The Child/Adolescent and the Learning Environment

Development of knowledge and practical application of processes of human growth, life-span development, and learning. Includes understanding individual differences among students, grouping procedures for learning, sequencing learning activities, classroom behavior patterns, and student self-awareness and self-concept.

3733 (3 hours)

Measurement and Evaluation in Education

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. 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.

4626 (6 hours)

Student Teaching in Middle School

Prerequisite: Admission to Student Teaching.

4636 (6 hours)

Student Teaching in Senior High School

Prerequisite: Admission to Student Teaching.

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.

Elementary Education

2313 (3 hours)

Multicultural Studies in Adolescent Literature

A survey of award-winning publications in multicultural literature for adolescents. Includes a focus on artistic merit, literary form and function, and genre studies within the examination of racial, ethnic, gender, and class relationships portrayed in this literature. An elective course for education majors.

3013 (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.

3133 (3 hours)

Creative Arts for Elementary Children

Fundamentals of art methods, art history, and philosophy to enable the elementary teacher to build a broad, diversified program of art experiences related to the basic content areas.

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. Must be taken concurrently with 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. Must be taken concurrently with 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. Must be taken concurrently with 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. Must be taken concurrently with 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 in kindergarten through the intermediate grades using inquiry-based concrete activities. Interdisciplinary curriculum planning and educational technology applications. Includes field experiences in culturally diverse settings. Must be taken concurrently with 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 in grades one through six. 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. Must be taken concurrently with Educ 3133. Prerequisite: Admission to Teacher Education.

English Language and Literature

Chair

Holly A. Laird

Professors

Hermione de Almeida
George H. Gilpin
Joseph A. Kestner
Holly A. Laird
Gordon O. Taylor
James G. Watson

Associate Professor

Lars D. Engle

Assistant Professors

William J. Kupinse
Laura Stevens

Distinguished Visiting Professor

Yevgeny Yevtushenko

Distinguished Writer in Residence

A. Grace Mojtabai

Director of Writing Program

Rebecca Damron

Applied Assistant Professor of English as a Second Language

Rebecca L. Damron

The B.A. degree is offered in this faculty.

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.

Major Subject

The English major requires a minimum of 30 hours in English course work, nine 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, Major American Writers	3
Engl 2513, Major British Writers I.....	3
Engl 2523, 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 3 hours of Creative Writing.....	12

TOTAL HOURS.....30

Majors are required to include in their elective programs at least one 4000-level course. 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 (Engl 2313, 2513, 2523) 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.

Students seeking secondary teacher certification in English complete a second major in education (pp. 100-105) in addition to the major in English.

Minor Field

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.

Senior Seminar

The Senior Seminar 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 research in literature and language for English majors, minors, and other qualified students.

1003 (3 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: English 1003 or satisfactory placement and diagnostic test scores.

1043 (3 hours)

Poetry and the Modern World

An analysis of the institutions, ideas, and landscape along with a reading of selected British, American, Continental, and some Oriental poems that have contributed to a definition of the modern world.

1063 (3 hours)

Advanced Exposition and Argumentation

An intensive experience in college writing, designed for advanced students. Prerequisite: Admission to the Honors Program or permission of the Director of the Writing Program.

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)

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.

2013 (3 hours)

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)

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)

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)

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)

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)

Literary Genders

Examines the effects of 20th-century women’s movements on modern images of women in English literature and film, and explores the

question of how both sexes are being defined, redefined, and transformed in 20th-century culture.

2273 (3 hours)

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.

2283 (3 hours)

Film Theory and Criticism

Surveys theories about cinematic languages and practices with attention to such elements as film language, film and reality, the film medium (image and sound), film narrative and the other arts, the film artist, film genres, and film in connection with psychology, society, and ideology.

2313 (3 hours)

Major American Writers

Critical approaches to American literature, stressing major themes and motifs in the work of representative American writers from the Colonial Period to the present.

2513 (3 hours)

Major British Writers I

Critical approaches to British literature, stressing major themes and motifs and the evolution of literary genres in the work of representative British writers from the Anglo-Saxon period to 1800.

2523 (3 hours)

Major British Writers II

Critical approaches to British literature, stressing major themes and methods and the development of modern literary sensibility in the work of representative British writers of the 19th and 20th centuries.

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.

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)**Creative Writing**

A writer's study of techniques and achievement in fiction, poetry, non-fictional prose, and drama. Focus is on a separate genre each semester.

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)**Early 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 "post-modern" 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 non-Chaucerian writing. Texts may include *Sir Gawain and the Green Knight*, *Pearl*, *Piers Plowman*, *The Book of Margery Kempe*, selected *Canterbury Tales*, *Malory's Le Morte D'Arthur*, and others.

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 Brontë's, Carlyle, Mill, Ruskin, Browning, George Eliot, Dickens, Hardy, Hopkins, Gissing, Arnold, Dante Gabriel and Christina Rossetti, and Kipling.

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.

3703-3893 (3 hours)**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).

4003 (3 hours)**Scholarly Writing and Research**

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 the instructor.

4123 (3 hours)**Modern Literary Theory**

Topics in modern and contemporary criticism and theory. Prerequisite: Six hours of English core or permission of the instructor.

4163**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.

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 Brontë. 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: English 2513 or permission of instructor.

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.

4703-4793 (3 hours)**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.

4803-4893 (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), 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.

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.

TURC Tutorial (Tulsa Undergraduate Research Challenge)

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.

Environmental Policy

Director

Steve B. Steib

Professor of 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 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 B.A. and B.S. 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 Environmental Policy B.A. requires a minimum of 35 hours in the major, while the B.S. 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:

Biol 1033, The Environment and Humanity

Biol 1504, Biology of Populations

Biol 1604, Biological Diversity

*Biol 3164, Field Ecology

*Prerequisites: Biol 1504 and 1604

The following:

Geol 1014, Introduction to Physical Geology

One of the Following:

Geol 1033, Earth's Physical Environment

Geol 1043, Geology of the National Parks

Geol 2053, Earth Resources

Geol 2063, Geological Hazards and Catastrophes

*Geol 3573, Environmental Geology

Geol 4523, Environmental Geochemistry

Gphy 4153, Environmental Geophysics

*Geog 3053, Geomorphology

*Prerequisite: Geol 1014

The following;

- *Chem 1023, Chemistry II
- *Chem 1021, Chemistry II Lab
- *Prerequisites: Chem 1013, Chem 1011

Social Sciences

The following:

- *Econ 3123, Environmental Economics
- *Econ 4163, Policy Analysis
- *Econ 4073, Applied Economic Analysis
- *Prerequisites: Econ 2013, 2023

One of the following:

- Pol 3023, Politics of the Judicial System
- Pol 3463, Constitutional Law

One of the following:

- Soc 3143, Environmental Sociology
- *Soc 3113, Population and Ecology
- *Prerequisite: Soc 1033

The following:

For the BA Degree

Soc 2023, Statistics for Social Sciences

For the BS Degree

Math 2014, Calculus I

Math 2024, Calculus II

Stat 2013, Introduction to Statistics

Stat 3813, Statistical Methods for Scientists and Engineers

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 3153, Animal Behavior

Biol 3164, Field Ecology

Biol 3314, Fungi and Algae

Biol 3504, The Higher Plants

Biol 4093, Population Ecology

Chem 3013, Organic Chemistry I & Lab (Chem 3011)

Chem 3023, Organic Chemistry II & Lab (Chem 3021)

Chem 4003, Trace Analysis

Chem 4053, Environmental Chemistry

Econ 3023, Macroeconomic Theory

Econ 3033, Microeconomic Theory

Econ 3053, Public Sector Economics

Econ 3083, International Economics

Econ 3113, Development Economics

Geog 3053, Geomorphology
Geol 3003, History of the Biosphere
Geol 4513, Hydrogeology
Geol 4523, Environmental Geochemistry
Gphy 4513, Environmental Geophysics
Hist 2383, US Environmental History
Pol 3023, Politics of the Judicial System
Soc 3083, Urban Sociology
Soc 3113, Population and Ecology
Soc 3143, Environmental Sociology
Soc 3703, Medical Sociology
Soc 4013, Sociology of Law

Minor Field

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

Director

Joseph A. Kestner
Professor of English

The 36-hour interdisciplinary program in film studies provides liberal arts students with the history, theory, and basic production techniques of film/video and prepares the more professionally minded student with the knowledge and experience necessary to continue to study film/video in graduate school.

Students begin with three required courses in the history, theory, and production of film:

- Engl 2273, Film History
- Engl 2283, Film Theory and Criticism
- FS 2013, Introduction to Video Production

The three courses listed above are prerequisites to the following required courses:

- Comm 3473, Video and Film Production in the Studio
- Comm 3573, Video and Film Production on Location

Students must take a minimum of 6 courses from the following list of electives:

- Art 2153, Photography I
- Art 4153, Photography Studio
- Art 3263, Computer Graphics
- Art 3443, Photoshop
- Comm 4843, Documentary Expression in Film and Video
- Engl 3053, Literature and Film
- Engl 2613, European and Russian Cinema
- Engl 4163, Film Genres
- Fr 3693, Cinema et Culture
- Germ 3973, German Film
- Hist 3233, Chinese History through Film
- Thea 2093, The Art of Acting
- Thea 3053, Playwriting I
- Thea 3103, Lighting Design
- Thea 3513, Advanced Lighting Design
- Thea 3143, Screenwriting
- Thea 4333, Directing

In the senior year film studies majors spend a semester completing a project that may be a short video, screenplay, or scholarly study:

- FS 4973, Advanced Film and Video Seminar

Minor in Film Studies (12 hours)

Engl 2273, Film History

Engl 2283, Film Theory and Criticism

4973 Advanced Film and Video Seminar (3 hours)

6 hours at 3000-4000 level from the list of electives.

2013 (3 hours)

Introduction to Film and Video Production

Provides the basic knowledge necessary to develop successful moving pictures in both narrative and documentary forms. Emphasizes preproduction, production, and postproduction states, including script development, cameras and lenses, shot determination, lighting, sound, picture and dialogue editing, and editing styles. Students shoot and edit a number of short productions.

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 short video, documentary, or screenplay, or a scholarly essay in film history or theory. Special sessions emphasize grant-writing, proposal submissions, agency, marketing, auditioning, and distribution.

History

Chair

Joseph C. Bradley

Professors

Joseph C. Bradley
Thomas H. Buckley
Andrew Burstein
Paul A. Rahe
James P. Ronda

Associate Professors

Thomas Buoye
Nancy Isenberg
Christine Ruane
Mary Lee Townsend

Assistant ProfessorsAndrew G. Wood

The history major exposes students to a range of historical issues and problems, provides an opportunity to develop authoritative knowledge of a particular field of history, and develops the fundamental skills necessary to the practice of the historian's craft. The major encourages a comparative approach to human problems and discourages parochialism. Nevertheless, it allows a level of specialization that promotes an appreciation of the complexity of human affairs and the difficulties involved in their interpretation.

Taken as a whole, the history major challenges the intellect, inspires the imagination, and stimulates analytical thinking. It 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.

Major Requirements

A minimum of 33 credit hours in history courses, excluding history courses taken to meet general curriculum requirements, is required for the B.A. in history. No more than 39 credit hours may be credited toward that degree.

Lower Division Requirements

One course from each of the following groups:

1. Hist 2313, Ideas and Institutions in the Ancient World
Hist 2363, The Medieval World
2. Hist 2403, Modern Western Civilization
Hist 2503, American Republic
3. Hist 2213, Latin America
Hist 2603, Russia and the West
Hist 2623, China and Japan since 1800

Upper Division Requirements

A. Hist 3903, History Colloquium

B. One course in each of the following areas:

1. Ancient World and Europe to 1700
2. Non-Western, Russia, and Latin American
3. United States
4. Europe since 1700

- C. Three or more upper division courses from one of the following primary fields:
1. Ancient World and Europe to 1700
 2. Non-Western, Russian, and Latin American
 3. United States
 4. Europe since 1700
 5. Comparative history: thematic field defined by advisor and approved by the undergraduate committee.
- D. One of the upper-division courses taken in the senior year must be a seminar.
- E. Hist 4983, Senior Thesis (Optional):

With the approval of the undergraduate advisor, students may elect to explore in depth a topic within their primary field. Topics are developed with the advice and consent of a faculty advisor. Besides regular individual conferences, students and their advisors meet periodically as a group during the semester to discuss the nature and progress of their research. Each student submits and defends a thesis by the fourteenth week. Credit earned by writing a senior thesis constitutes part of the primary field requirement.

Students who plan to complete a senior thesis should arrange to do so in their last spring semester. Students should begin to explore possible research topics during the preceding fall semester. Students planning to graduate in December should enroll in Senior Thesis during the preceding spring semester.

Students seeking secondary education teacher certification in social studies complete a second major in education (pp. 100-105) and additional courses in political science, economics, sociology, and geography as prescribed by the state approved program in combination with the major in history.

Minor Field

Students must, with the advisor's approval, enroll in at least 12 hours, in a minor field, six of which must be at the 3000 level or above.

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.

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.

2173 (3 hours)

The Origins of War

Events leading up to four wars (the Peloponnesian War, World War I, the Second Punic War, and World War II) and a diplomatic crisis (the Cuban Missile Crisis) that did not eventuate in war, with attention to questions of responsibility and causation.

2183 (3 hours)

History and Literature

The relationship between literary texts and their historical contexts, organized around a specific historical period, geographical area, or theme.

2213 (3 hours)

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.

2313 (3 hours)**Ideas and Institutions in the Ancient World**

The Near East, Greece, and Rome in antiquity; emphasis on the ideas and institutions producing the cultural, intellectual, social, and political achievements of these three early western civilizations.

2323 (3 hours)**The Ancient City**

Religious, economic, social, and political institutions of the Greek polis and the Roman civitas in their larger cultural context. Much of the reading is drawn from classical authors. Some ancient literary works are read in their entirety.

2363 (3 hours)**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.

2373 (3 hours)**Ideas in the Middle Ages**

Survey of major medieval thinkers from Augustine to William of Occam, with emphasis on the creation of the so-called medieval synthesis and the subsequent breakup of that synthesis.

2403 (3 hours)**Modern Western Civilization**

Introduction to major issues and events that have shaped western Europe since 1600, with emphasis on basic themes such as the development of the nation-state, the roles of the church and science in society, the modern "tradition" of revolution, and the function of ideology in politics.

2423 (3 hours)**The History of Ideas in Modern Europe**

Overview of the history of ideas in Europe from the Enlightenment to existentialism, focusing on

a few key individuals, movements, books, and works of art.

2503 (3 hours)**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.

2513 (3 hours)**African American History Since 1877**

Survey of African American experiences from the period following Reconstruction to the present decade, focusing on the social, economic, political, and cultural aspects of African American life.

2523 (3 hours)**History of Oklahoma**

Oklahoma from prehistoric times to the present with emphasis on the role of the Indian in the state's history.

2553 (3 hours)**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)**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.

2603 (3 hours)**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)**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)

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)

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)

Imperialism

The theoretical and historical foundations of imperialism and its impact on world affairs from the ancient Greeks to the present.

3223 (3 hours)

Slavery in the Americas

Slavery in the Americas beginning with its African and European antecedents and continuing through its abolition in the 19th century. Topics include the Atlantic slave trade; variations by work regime, region, treatment, and gender; and slave culture and resistance.

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.

3243 (3 hours)

History of the Caribbean

Peoples, cultures, and economics of the circum-Caribbean region from its first indigenous inhabitants to present. Indian, African, and European antecedents; the transition from white indentured to African slave to “free” labor; race relations; independence movements and revolutions; export-led industrialization; changing gender roles; and Caribbean-U.S. relations.

3253 (3 hours)

Colonial Latin America

Latin America from pre-Columbian times to independence: Iberian, indigenous, and African antecedents; the conquest; construction of colonial societies, economics and institutions; and independence movements. Compares developments in central and peripheral areas in Latin America, and Spanish and Portuguese imperial goals and actions.

3263 (3 hours)

Modern Latin America

Latin America from independence to the present: creation of new republics, continuing imperialism in Brazil, the transition from slave to free labor, neocolonialism and global integration, 20th-century economic and social change, revolutionary movements, and Latin American-U.S. relations.

3313 (3 hours)

Crisis of Greek Civilization

Greece from the Persian war to the death of Alexander the great. Emphasis on the Peloponnesian War and its aftermath, and the relationship between the decline of the polis, the poetry, philosophy, and rhetoric of the age.

3393 (3 hours)

Renaissance and Reformation, 1300-1648

Political, social, religious, economic, and intellectual developments of the eras of the Renaissance and Reformation, with emphasis on the transition from the Middle Ages and the development of the modern nation-state.

3443 (3 hours)

French Revolution

Examines the social, political, economic, and psychological impact of the French Revolution

on Europe from the fall of the Bastille (1789) to the congress of Vienna (1815).

3463 (3 hours)

19th-Century Europe, 1789-1914

The “long 19th century,” from the aftermath of the French Revolution to the outbreak of World War I. Introduction to the political and industrial revolutions, nationalism and diplomacy, the modernization of war, and the birth of ideologies. Explores issues such as culture, class, gender, and ethnicity.

3473 (3 hours)

Democracy and Dictatorship in 20th-Century Europe

The major intellectual, political, social, and cultural currents of 20th-century Europe. The rise of modern dictatorships and the confrontation between dictatorship and democracy.

3513 (3 hours)

Colonial America

History of Colonial America from its beginnings to revolutionary times.

3523 (3 hours)

Revolutionary America, 1750-1800

Detailed interpretive examination of the 50-year period centering on the American revolution.

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

The political crisis of the 1850s, the process of secession, military conduct of the war, and Confederate and Union societies of war.

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-Present

American history from John F. Kennedy to the present including both domestic and foreign affairs.

3583 (3 hours)

American Civil Rights Movement

Broad-based interdisciplinary examination of the Civil Rights Movement in the context of American culture, utilizing the insights of history, anthropology, and sociology.

3613 (3 hours)

Economic History of China and Japan

Comparative history of modern industrial economies in 19th- and 20th-century China and Japan: historical antecedents of economic growth; cultural, economic, and political institutions that have shaped both countries’ recent economic history; and imperialism and the role of the West in the economic development of China and Japan.

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.

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.

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 histo-

ry, 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.

4243 (3 hours)

Spain in North America

Topical approach to Spain's settlement, influence, and legacy in North America. Emphasis on what is now the U.S. Southeast and Southwest. Forging of a Hispanic empire; economic, cultural, biological exchange between Indians, Africans, and Spaniards; missionary and military frontiers; roles of women; European and Native American rivalries.

4333 (3 hours)

Medieval and Renaissance Italy (1000-1600)

Transformation of Italy from a marginally free "medieval" society to home of the "renaissance." Economic and social issues, including rise of long distance trade and the capitalist ethic; impact of plague, pestilence, warfare; and emergence of the nuclear family. Attention to roles of women and "out groups" (Jews, petty laborers, domestic slaves).

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, 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.

4463 (3 hours)

Germany from Frederick to Bismarck

The transformation of central Europe from a divided and contentious backwater into two of the world's great powers, Germany and Austria-Hungary. Emphasizes society, culture, and politics from Frederick the Great and Maria Theresa to Bismarck.

4473 (3 hours)

Germany from Bismarck to Hitler

Germany's triumphs and tragedies as a modern world power, emphasizing the role of ideology in shaping the German cultural and political experience.

4523 (3 hours)

The Modern American West

The American West in the 20th century, with attention to the region's growing cultural, political, and economic role in national life. Emphasis on the tension between the urban West and traditional rural values.

4533 (3 hours)

The Old West

The American West from before the arrival of Europeans to the beginning of the 20th century, with the emphasis on the West as a culturally complex and diverse region.

4543 (3 hours)

American Constitutional History to 1877

Formation and development of the Constitution with emphasis upon the role of the Supreme Court.

4573 (3 hours)**American Diplomatic History since 1914**

American foreign relations from the rise of Woodrow Wilson in 1914 to the present.

4673 (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.

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.

4823 (3 hours)**Topics in Ancient Near Eastern History**

Seminar on selected topics on the history of ancient Egypt, Mesopotamia, or the Holy Lands; readings and interpretations of narrative and epigraphic sources, in translation, and the evolution of problems of past and current scholarship (e.g., the Thutmosid Succession).

4833 (3 hours)**Topics in Latin American History**

Discussion course focused on a particular time period, country, and/or topic in Latin American history. Emphasis on critical analysis of historical works, literature, films, and documents.

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.

4973 (3 hours)**Undergraduate Seminar****4983 (3 hours)****Senior Thesis**

Structured independent research on a topic developed with the advice and consent of a faculty advisor. Students meet regularly with their advisors and as a group to discuss the nature and progress of their research. Thesis defense required. Normally taken in a student's final spring semester.

4991-3 (1-3 hours)**Independent Study**

Languages

Chair

Victor Udwin

Professors

D. Thomas Benediktson

Reginald Hyatte

Associate Professors

Christopher Anderson

Pamela Finnegan

Victor Udwin

Instructors

Marta Chamorro

Véronique Conway

Elena Doshlygina

Tania Garmy

Elsa Gomez

Zita Halka

Karen Rubio

Doris Wicks

Assistant Professors

Eduardo Faingold

Donald Gilbert

Alexa Larson-Thorisch

Lydie Meunier

The programs offered by the Department of Languages are designed to help students throughout the university develop proficiency in a second Language at a level commensurate with the time and effort expended in its study. Learners of a second language also gain an awareness of the culture of its speakers and the realization that their own language, culture, and worldview are not universal.

Language majors or minors and other students taking advanced courses are offered the opportunity to become culturally literate in the target language, develop a basic understanding of its linguistic structure, and prepare themselves to use it in their personal and professional lives. Majoring in a language provides a strong pre-professional background for graduate study as well as for careers in business, government, and teaching.

Placement in Language Courses

The University of Tulsa relies on individual advising rather than standardized testing for placement of students at the appropriate level in language classes. All students with previous training or experience but no college credit in the language are encouraged to consult the Department of Languages for placement advice. See the statement below on Delayed Proficiency Credit.

Bilingual students are encouraged to enhance their education through the department's course offerings in language, literature, linguistics, translation, and culture, as well as through co-curricular activities and study abroad. These students must consult the department prior to course enrollment for placement at the appropriate level.

Delayed Proficiency Credit

Students who enroll in a language course above 1004 and complete the course with a grade of C or better will receive delayed proficiency credit for the previous course as well. A maximum of either three or four proficiency credits for 1004, 1014, 2003, or 2013 may be earned

in this way. Students with previous college or AP credit are not eligible for delayed proficiency credit in the same language.

Beginning and Intermediate Language Courses

Students whose college requirements or personal goals include one or two years of language study may select from Cherokee, French, German, ancient Greek, Latin, Russian, and Spanish.

The 1004 course in each language has no prerequisite and assumes no prior knowledge of the language. Each subsequent course in the beginning and intermediate sequences requires a passing grade in the previous course or equivalent, or permission of the department.

Students who elect to repeat a 1000- or 2000-level language course for a higher grade may repeat only the latest course taken in the sequence. Exceptions may be approved on a case-by-case basis by the chair of the Department of Languages.

Study Abroad

All intermediate and advanced language students are strongly encouraged to take part in a university-sponsored study abroad program as a significant part of their education and college experience. The Department of Languages conducts its own summer and semester study abroad programs. The summer programs are the French Immersion Program in Quebec, the Russian Program in Zelenograd, the Spanish Immersion Program in Málaga, and Study Abroad in Mexico. Spring semester programs are conducted in Siegen, Germany, and Amiens, France.

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 areas such as psychology, philosophy, politics, and cinema.

The Department of Languages also offers a variety of courses in areas such as linguistics, classics, women's studies, and comparative culture. Many of these are taught in English and are appropriate for students in a wide range of fields.

Minor Programs

A student may minor in Classics, comparative literature, or a language (French, German, ancient Greek, Latin, Russian, or Spanish), with the approval of the major department. A minor in Classics or Comparative Literature consists of 12 hours at the 3000 or 4000 level. A language minor consists of 12 hours beyond the level of the college language requirement. All courses are selected in consultation with an advisor in the Department of Languages.

Majoring in a Language

Major programs are offered in French, German, and Spanish. The goal of these programs is to prepare students for professional careers, graduate study, and participation in a global society. The curriculum provides a wide range of communicative, linguistic, literary, cultural, and professional experiences inside and outside the classroom. Many students combine a language major with a concentration in an additional field. Such a concentration may be a minor, certificate program, or second major.

All language majors take Lang 3053 as a required part of their program.

We encourage all language students to spend a summer, semester, or academic year in a study abroad program. The Study Abroad Office works closely with the department to make it possible for students to participate in TU-sponsored programs.

Prospective language teachers complete the major in French, German, or Spanish along with the licensure and certification requirements for grades K-12 as determined by the School of Education.

Students interested in both language study and international relations may combine a major in language with a certificate in international studies. Similarly, interested students may combine a language major with a certificate in Classics or Women's Studies.

Career goals that include both Language and business may be served with the Bachelor of Science degree in international business and language offered through the College of Business Administration. This single major combines the full French, German, or Spanish major curriculum with specialized training in international business.

Language majors who wish to continue their education on the graduate level will find an innovative selection of courses that will help ensure a solid background for further study.

French Major

French majors must complete 27 hours at the 3000 and 4000 levels, with a minimum of 12 hours at the 4000 level. The 27 hours include Advanced French (French 3023) and Introduction to Literary Analysis (Lang 3053). French Education majors take Topics in French Language and Linguistics (4303) and Methods of Teaching Languages (Lang 4003) as part of the program. At least 21 of the 27 hours are to be 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 advisor and department chair.

German Major

German majors must complete 27 hours of German at the 3000 and 4000 level, including Introduction to Literary Analysis (Lang 3053). 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). Such courses must be approved in advance by the major advisor. German Education majors take 24 hours of German at the 3000 and 4000 level and Methods of Teaching Languages (Lang 4003).

Spanish Major

Spanish majors must complete 27 hours beyond the 2000 level, with a minimum of 15 hours at the 4000 level. The 27 hours include Advanced Spanish 3003, Explication of Hispanic Literary Texts (3033), and Introduction to Literary Analysis (Lang 3053); some students may be required to take Spanish Phonetics (3313). Spanish Education majors take Structure of Modern Spanish (4303) and Methods of Teaching Languages (Lang 4003) as part of the Spanish major.

Cherokee

1004-1014 (4 hours each)

Beginning Cherokee I and II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to the novice learner. Study of grammar as an aid in communication. Prerequisite: All students with previous training or experience in the Language must consult the Department of Languages for placement advice.

2003-2013 (3 hours each)

Intermediate Cherokee I and II

Continuation of 1004-1014. Increases the learner's ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as an aid to communication. Prerequisite: Chrk 1014 or equivalent, or permission of department.

Comparative Literature

2013 (3 hours)

Comparative Mythology

The mythology of the Greeks and Romans, with a discussion of later myths and the connection between myth and historical reality. Scrutiny of central figures such as Zeus, Poseidon, Aphrodite, Apollo, Orpheus, and the Argonauts, the role of mythology in art and ancient temples, and mythology in English literature.

2023 (3 hours)

***The Divine Comedy*: Dante and the Middle Ages**

The Divine Comedy is presented as a unique synthesis of medieval culture: theology, philosophy, literature, languages, and the arts. Although knowledge of Italian is not required, a bilingual text is used to insure greater understanding of references completely lost in the English translation.

2043 (3 hours)

Back to the Present: Part I, 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 as 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.

2073 (3 hours)

The Italian Renaissance

The development and accomplishments of the Italian Renaissance are monitored through careful consideration of works by Boccaccio, Machiavelli, Castiglione, and other writers. Renaissance art and the role of scientific and political-social changes in determining skills and suggesting ideas that were to come to fruition in modern times are also considered.

2083 (3 hours)

The Plague in Literature and Film

This course aims at a critical understanding of how artists from the Middle Ages to the present moment have used plagues as a metaphor for erotic love, the human condition, threatening "otherness," and artistic creation itself.

2153 (3 hours)

Medieval and Modern Pursuit of the Ideal

Medieval romances and 19th- and 20th-century plays, poetry, novels, and films on the pursuit of ideal beauty, wisdom, love, and other "noble" absolutes. How do writers and filmmakers represent ineffable ideals in words or images? Has the modern period, idealizing vice, madness, and ugliness, lost touch with the aspirations of the past?

2173 (3 hours)

Italy Today

Introduction to traditional and contemporary Italian culture through literature, language, and cinema. The program affords an inside view of the political, social, and cultural patterns presently at work in shaping the future of the country.

2213 (3 hours)

U.S. Latinos: An Introduction to Their Histories and Cultures

This course introduces students to that segment of the U.S. population that traces ancestral roots to Spain and/or Latin America and focuses on the three largest U.S. Latino groups: Mexican-American, Puerto Rican, and Cuban.

2223

German Fairy Tales, Gender, and Contemporary Culture

Examines the German folk and fairy tale tradi-

tion, appropriations of the fairy tale structure, its narrative conventions, and its gender systems in contemporary American culture. Addresses how fairy tales socialize, the tension between historical and archetypal interpretation, and the reception, stylization, and modernization of traditionally oral and arguably matriarchal tales.

3023 (3 hours)

The Other Voice: Women's First Person Narratives

How women's autobiographical writings construct feminine subjectivity and identifications in ways that entitle readers to interpret women's writing as different. Attention to letters, journals, memoirs, and to novels by Sand, Colette, Stein, Duras, and Atwood. Theoretical writings of Cixous, Irigaray, Kristeva, Kamuf, and others inform debates on women's writing and subjectivity.

3243 (3 hours)

Dante and Modernist Writers

Parallels between Dante's *Vita Nuova* and *The Divine Comedy* and writers such as Eliot, Joyce, Pound. Examines the matrix of literary influences and exceptional innovations achieved in English poetry and prose through a reassessment of Dante's linguistic skills and his reliance on experimentation with language and poetic forms. Same as Rel 3243.

3523 (3 hours)

Mystical Literature

Introduction to Literary and philosophical issues inherent to Western mystical literature. Particular attention to the literary forms of autobiography, scriptural commentary, and mystical poetry by Dionysius the Aeropagite, Augustine of Hippo, Teresa of Avila, John of the Cross, Richard Rolle, and William Wordsworth. Same as Rel 3523.

4043 (3 hours)

Dante and the English Literary Tradition

A thematic and semantic approach to *The Divine Comedy* reveals Dante's importance to the English literary tradition. Students need not know Italian, but the bilingual text of the *Commedia* shows why English writers admired Dante's exceptional linguistic skill and used the *Commedia* and *Vita Nuova* as guides to their own stylistic and thematic innovations.

French

1004-1014 (4 hours each)

Beginning French I and II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to the novice learner. Study of grammar as an aid to communication. Prerequisite: None. All students with previous training or experience in the language must consult the Department of Languages for placement advice.

2003-2013 (3 hours each)

Intermediate French I and II

Continuation of 1004-1014. Increases the learner's ability to use the language in a wider range of situations and with greater accuracy. Greater use of authentic materials. Study of grammar as an aid to communication. Prerequisite: Fr 1014 or equivalent. All students are encouraged to consult Department of Languages for placement advice. Bilingual students must consult the Department of Languages for 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 all majors. Prerequisite: Fr 2013 or equivalent, or permission of instructor. Bilingual students must consult the Department of Languages for placement advice.

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: Fr 3023 or equivalent, or permission of instructor. Students educated in a language other than English should consult instructor before enrolling.

3423 (3 hours)

Technical and Commercial 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. Prerequisite: Fr 2013 or equivalent, or permission of instructor.

3613 (3 hours)

Amiens et Picardie en France

On-site field experience in Amiens, France. Exploration of Amiens and the Picardie region: institutions, history, geography, and social, political, economic structure. Intensive three-week course required of all "TU in Amiens" students. Taught in France only. Prerequisite: Permission of the program director.

3623 (3 hours)

French Language in Amiens

Students choose from a full program of university-level classes in many disciplines conducted in French at the Université de Picardie and the Ecole Supérieure de Commerce in Amiens. Courses may include advanced language, literature, and civilization offered in the *Français Langue Etrangère* program designed for non-native speakers. Semester course required of all "TU in Amiens" students. Taught in France only. Prerequisite: Permission of program director.

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 2013 or equivalent, or permission of instructor.

3991-3 (1-3 hours)

Independent Study

By arrangement with a French instructor. Prerequisite: Permission of the department chair.

4113 (3 hours)

Topics in Francophone Literary and Cultural Studies

These courses explore the Black (African and Caribbean), Maghreb and Near Eastern, European (Belgian, French, Swiss), or Canadian Francophone world. Cultural and literary accomplishments, social institutions, and ideologies of French-speaking peoples explored through various media, including texts, slides, historical documents, newspapers, advertisements, film clips,

television, or radio programs. Course may be repeated for credit with different topics. Prerequisite: Lang 3053 or equivalent, or permission of instructor.

4123 (3 hours)

Topics in Literary and Cultural Studies of France

This series of courses explores the culture, political institutions, philosophy, and literature of France. May be repeated for credit with different topics. Prerequisite: Lang 3053 or equivalent, or permission of instructor.

4143 (3 hours)

Genres and Periods

Core studies for students electing a concentration in French literary and cultural studies. One of following is offered each semester: 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: Lang 3053 or equivalent, 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. Required for French Education majors. Course may be repeated for credit with different topics. Prerequisites: Lang 2023 and two 3000-level French courses, or permission of instructor.

4403 (3 hours)

French Translation II

Continuation of 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 B or better in Fr 3403 or equivalent, or permission of instructor.

4991-3 (1-3 hours)

Independent Study

By arrangement with a French instructor. Prerequisite: Permission of the department chair.

4523 (3 hours)

TU in Amiens

Participants in the TU in Amiens semester abroad program select courses from the regular

curriculum of the Université de Picardie and the Ecole Supérieure de Commerce in Amiens. Students submit a substantial research or creative project in French. Projects must be approved by the director and, in most cases, another TU major or certificate advisor who will evaluate the submission. Available in France only. Prerequisite: Permission of the program director.

German

1004-1014 (4 hours each)

Beginning German I and II

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to the novice learner. Study of grammar as an aid to communication. Prerequisite: None. All students with previous training or experience in the Language must consult the Department of Languages for placement advice.

2003-2013 (3 hours each)

Intermediate German I and II

Continuation of 1004-1014. Increases the learner's ability to use the Language in a wider range of situations and with greater accuracy. Greater use of authentic materials. Study of grammar as an aid to communication. Prerequisite: Germ 1014 or equivalent. All students are encouraged to consult the Department of Languages for placement advice. Bilingual students must consult the department for placement.

3003 (3 hours)

Advanced German

Continuing development of German reading, writing, listening, speaking, and analytical skills to an advanced proficiency. Prerequisite: Germ 2013 or equivalent, or permission of instructor. Bilingual students must consult the Department of Languages for placement.

3113 (3 hours)

Women in German Letters

Literary representations of women and women's self-expression in letters, journals, fiction, poetry, and autobiography in a changing historical context. Topics include women's access to education, male and female roles in society and the family, marriage, identity, the literary canon, the emergence and impact of the women's movement in the 19th century, and the emergence of a

feminist consciousness. Prerequisite: Germ 2013 or equivalent, or permission of instructor.

3213 (3 hours)

Genre

Approaches the transformation of German culture through examination of a series of texts in a single genre such as drama, lyric, fictional narrative, national history, literary history, art criticism, the philosophical essay, film, or opera. Prerequisite: Germ 2013 or equivalent, or permission of instructor.

3413 (3 hours)

Religious Ideas

Direct and indirect expressions of religious thinking represent a central thread running through German cultural history. Readings include the medieval romance, Luther's writings for the German public, Herder's philosophical essay on the divine origin of Language, and Goethe's representation of history in his plays. Prerequisite: Germ 2013 or equivalent, or permission of instructor.

3513 (3 hours)

Institutions

The foundations of modern social institutions, focusing on the legal system, medicine, the military, marriage and the family, the church, education, and the rise of the modern state. Prerequisite: Germ 2013 or equivalent, or permission of instructor.

3613 (3 hours)

Landeskunde: Siegen und Umgebung

On-site exploration of Siegen: geography, demographics, institutions, and history. Intensive three-week course required of all "TU Semester in Siegen" program participants. Taught in Germany only. Prerequisite: Permission of program director.

3623 (3 hours)

German Grammar

In preparation for "TU Semester in Siegen," students review all aspects of German grammar with emphasis on increased accuracy in written and oral communication. Once in Siegen, students are introduced to more sophisticated grammatical structures.

3683 (3 hours)

Advanced Grammar and Composition

Intensive practice in composition at a level ap-

propriate to study at the Universität-Gesamthochschule Siegen. Attention to coherence, style, and linguistic accuracy. Four-week course required of all “TU Semester in Siegen” program participants. Taught in Germany only. Prerequisite: Permission of program director.

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: At least one 3000-level German course or permission of instructor.

4413 (3 hours)

Individual Authors

Attention to a particular historical and cultural context through intensive reading of an individual author’s work, to allow for appreciation of complexities and developments within the span of a single career. May include Goethe, Schiller, Wolf, Seghers, Kleist, Kafka, Lessing, Brecht, and others. Course may be repeated for credit with different topics. Prerequisite or corequisite: At least one 3000-level German course or permission of instructor.

4513 (3 hours)

Special Topics

Advanced course in one aspect of German culture or linguistics: e.g., an epoch (Medieval Courtly Society, the Reformation, the revolution of 1848, the Weimar Republic, post-war divided Germany, reunification); a place (Berlin, Vienna, Prague, East Germany); a population (Jews, “guest” workers); and linguistics. Course may be repeated for credit with different topics. Prerequisite or corequisite: At least one 3000-level German course or permission of instructor.

4523 (3 hours)

TU at Uni-Siegen

Participants in “TU Semester in Siegen” study abroad program select courses from the regular curriculum of the Universität-Gesamthochschule Siegen. Available in Germany only. Prerequisite: Permission of program director.

4991-3 (1-3 hours)

Independent Study

By arrangement with a German instructor. Prerequisite: Permission of the department chair.

Greek

1008 (8 hours)

Greek Grammar Workshop

Intensive, complete introduction to the forms and usage of elementary grammar of ancient Greek. Offered alternating fall semesters.

2006 (6 hours)

Greek Reading Workshop

Intensive, complete reading of one Platonic dialogue and one tragedy. Offered alternating spring semesters. Prerequisite: Grk 1008 or permission of instructor.

3003 (3 hours)

Attic Prose

Reading in one author: Xenophon, Plato, or Herodotus. Offered biennially, alternating with Greek 3013. Prerequisite: Grk 2006 or permission of instructor.

3013 (3 hours)

Attic Prose

Reading in one author: Xenophon, Plato, or Herodotus. Offered biennially, alternating with Greek 3003. Prerequisite: Grk 2006.

3103 (3 hours)

Homer

Readings from the Iliad and Odyssey. Offered biennially, alternating with Grk 3203. Prerequisite: Grk 2006 or permission of instructor.

3203 (3 hours)

Tragedy

Complete reading of one tragedy. Offered biennially, alternating with Grk 3103. Prerequisite: Grk 2006 or permission of instructor.

4003 (3 hours)

Senior Reading Course

Thorough study of one significant text. Offered annually. Prerequisite: Two 3000-level Greek courses or permission of instructor.

4013 (3 hours)

Senior Greek Seminar

Study of one topic in Greek philosophy, history, or poetry. Topic varies from year to year. Offered annually. Prerequisite: Two 3000-level Greek courses or permission of instructor.

Language

2023 (3 hours)

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. Prerequisite: None.

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. Required for Spanish, German, French, and self-designed Russian majors. Prerequisites: one upper-division Language course (may be taken concurrently), the equivalent, or permission of the instructor.

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, normally attained through at least one 4000-level course, or equivalent.

4313 (3 hours)

Special Topics in Language

A particular topic in an area such as language teaching methodology, linguistics, sociology of language, or semiotics. Repeatable 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/Engl/Lang 2023.

Latin

1004-1014 (4 hours each)

Beginning Latin I and II

Acquisition of basic competence in reading and writing. Study of grammar as an aid to reading and writing. Prerequisite: All students with previous training but no college credit in the Language must consult the Department of Languages for placement advice.

2003-2013 (3 hours each)

Intermediate Latin I and II

Continuation of 1004-1014. Emphasis on reading Classical Latin poetry and prose. Prerequisite: Lat 1014 or equivalent, or permission of department.

3023-3033 (3 hours each)

Advanced Latin Texts

Readings from Latin authors of all periods, but primarily from the classical era. Different authors are covered during the course of each semester. 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.

4991-3 (1-3 hours)

Independent Study

By arrangement with a Latin instructor. Prerequisite: Permission of the department chair.

Russian

1004-1014 (4 hours each)

Beginning Russian I and II (4 hours each)

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to the novice learner. Study of grammar as an aid to communication. Prerequisite: None. All students with previous training or experience in the language must consult the Department of Languages for placement advice.

2003-2013 (3 hours each)**Intermediate Russian I and II**

Continuation of 1004-1014. Emphasis on increasing the learner's ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as an aid to communication. Prerequisite: Russ 1014 or equivalent. All students are encouraged to consult the Department of Languages for placement advice. Bilingual students must consult the Department of Languages for placement.

3003 (3 hours)**Russian Conversation and Grammar**

Students build oral proficiency to the advanced level while increasing their awareness of Russian culture. Group and pair work is accompanied by use of authentic materials as well as further study of grammar. Prerequisite: Russ 2013 or equivalent, or permission of instructor. Bilingual students must consult the Department of Languages for placement.

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 turn of the 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.

3683-3693 (3 hours each)**Advanced Grammar and Composition I and II**

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.

4991-3 (1-3 hours)**Independent Study**

By arrangement with a Russian instructor. Prerequisite: Permission of the department chair.

Spanish**1004-1014****Beginning Spanish I and II**

Acquisition of basic communicative competence, including listening, speaking, reading, writing, and cultural skills. Strategies for functioning in situations at a level appropriate to the novice learner. Study of grammar as an aid to communication. Prerequisite: None. All students with previous training or experience in the language must consult the Department of Languages for placement advice.

2003-2013**Intermediate Spanish I and II**

Continuation of 1004-1014. Increases the learner's ability to use the language in a wider range of situations and with greater accuracy. Increased use of authentic materials. Study of grammar as an aid to communication. Prerequisite: Span 1014 or equivalent. Bilingual students must consult the Department of Languages for placement.

3003 (3 hours)**Advanced Spanish**

Development of reading, writing, speaking, and listening skills to advanced proficiency level

with increasing emphasis on accuracy. Required for majors. Prerequisite: Span 2013 or equivalent, or permission of instructor. Bilingual students must consult the Department of Languages for placement.

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 equivalent, 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 these various states. Prerequisite: Span 2013 or equivalent, 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)

Spanish for Elementary School Teachers

Specific-purpose language and culture class to help English-speaking teachers communicate successfully in Spanish situations frequently encountered in the elementary school classroom. Communication is treated as both linguistic and cultural and includes study of the presence, culture, and value system of Hispanic families with children in U.S. schools. Strongly recommended for elementary education majors who minor in Spanish. Prerequisite: Span 2013 or equivalent, or permission of instructor. Bilingual students must consult the Department of Languages for placement.

3313 (3 hours)

Spanish Phonetics

Systematic study of the sound system of Spanish. Extensive practice to improve pronunciation and study of the phonological rules that

contribute to a foreign accent. Examination of the major dialect variations in Spanish pronunciation. Strongly recommended for those who wish to teach Spanish. May be required of Spanish majors on an individual basis. Prerequisite: Lang/Engl/Anth 2023 and Span 2013 or equivalent, or permission of instructor.

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: Span 3683 or equivalent, 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. Taught in Málaga only. Prerequisite: Span 2013 or equivalent; permission of program director.

3991-3 (1-3 hours)

Independent Study

By arrangement with a Spanish instructor. Prerequisite: Permission of the department chair.

4003 (3 hours)

Conversation in Study Abroad: Living the Language

Helps students develop greater oral proficiency while living and studying in a Spanish-speaking country. Emphasis on broadening the range and depth of functions and contexts in which the student can comfortably participate in everyday situations and in-depth conversations with native speakers. Attention to increased accuracy of communication. Taught only in Study Abroad. Prerequisite: Span 3003 or equivalent, permission of instructor.

4033 (3 hours)

The Theatre in Spain

Literary and sociopolitical aspects of major Spanish plays are emphasized. Prerequisite: Span 3003 and 3033, or permission of instructor.

4043 (3 hours)**Narrative Patterns and the *Quixote***

The place of *Don Quixote* in the development of narrative fiction, with emphasis on the play of linguistic, formal, and thematic levels. Prerequisite: Span 3003 and 3033, or permission of instructor.

4053 (3 hours)**Poetry of Spain**

Concentrated study of selected masterpieces of Spanish poetry. Prerequisite: Span 3003 and 3033, or permission of instructor.

4073 (3 hours)**Poetry of Latin America**

Emphasis on the Modernist poets and contemporary masters. Prerequisite: 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. Prerequisite: 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. Prerequisite: Span 3003 and 3033, or permission of instructor.

4103 (3 hours)**The Modern Spanish Narrative**

Narrative texts from the 19th and 20th centuries. Attention to social commentary, formal development, and experimentation. Prerequisite: 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. Prerequisite: Span 3003 and 3033, or permission of instructor.

4303 (3 hours)**Structure of Modern Spanish**

Contrastive analysis of Spanish and English grammar, pronunciation, and vocabulary. Required of Spanish Education Majors. Prerequisite: Anth/Engl/Lang 2023 and two 3000-level Spanish courses, 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: Anth/Engl/Lang 2023 and two 3000-level Spanish courses, or permission of instructor.

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. Prerequisite: 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. Prerequisite: Span 3003 and 3033, or permission of instructor.

4991-3 (1-3 hours)**Independent Study**

By arrangement with a Spanish instructor. Prerequisite: Permission of the department chair.

School of Music

Director

Francis J. Ryan, Jr.

Professors

Anna Norberg

Ronald E. Predl

Associate Professors

Edward M. Byrom

Jane Carmichael-Everitt

Derry Deane

John S. Powell

W. Roger Price

Joseph L. Rivers

Francis J. Ryan, Jr.

Applied Associate Professors

Kenneth G. Grass

Vernon Howard

Assistant Professor

Teresa S. Reed

Applied Assistant Professor

Susan Goldman-Moore

Instructor in Piano/Coordinator of Accompanying

Michele Cowen

Applied Instructor

Diana Bucchianeri

Adjunct Instructors

Rod Ackmann

Jim Bates

Jennifer Corning

Jeff Cowen

Mike Fowler

Leonard Garrison

Bernie Guzik

William McKee

Linda Naylor

Ronald Pearson

Kathy Stewart

Shannon Scott

Roy Smith

Director of Bands

Kenneth G. Grass

Director of Choral Activities

Edward M. Byrom

Symphony Conductor

Francis J. Ryan, Jr.

Opera Theatre Coordinator

Eric Gibson

Coordinator of Music Theory Studies

Joseph L. Rivers

Coordinator of Jazz Studies

Vernon Howard

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 faculty of the School of Music is dedicated to providing professional, comprehensive musical education for students preparing for careers in the field of music; and, as part of a comprehensive university, to enriching the curriculum with special course offerings and a variety of ensemble experiences available to all students.

The School of Music offers both liberal arts and professional degree programs. The B.A. (bachelor of arts) degree is offered in both general music studies and also with a special emphasis on jazz studies. In cooperation with the School of Art, the Department of Theatre and the College of Business Administration, the B.A. degree is also offered with a major in arts administration.

The B.M. degree (bachelor of music) is offered with majors in performance, orchestral instrument performance, music composition and music theory.

The B.M.E. (bachelor of music education) is offered in instrumental and vocal music, and in vocal music with piano as the principal instrument. Additionally, the bachelor of music education is offered in all three of these areas with an emphasis on jazz techniques.

Students may also receive a minor in music by completing 12 to 15 hours of selected music courses.

Special Regulations and Information

Applied music fees are listed in the financial information section of this bulletin. Music majors are not charged for private music instruction required in degree programs unless they exceed 24 hours of applied study in the B.M. program or 14 hours in the B.M.E. program. An assessment of \$150 per credit hour is made for each credit hour of private instruction beyond the number of hours described above.

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. Applied 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 not be made up at the discretion of the instructor.

Students pursuing the B.M.E. degree are required to pass functional piano and guitar examinations before enrolling in student teaching.

All incoming music students must take a music theory placement examination.

All music majors are required to complete eight semesters of recital attendance.

Applied Music Lessons. All students should check carefully with their advisor each semester to make sure they are enrolled in the proper section of applied music. Normally the B.A. or B.M.E. candidate enrolls for one credit hour each semester in the major applied instrument/voice.

A B.M. candidate 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 and students taking a secondary instrument enroll for one credit hour.

Tulsa Curriculum Requirements

Every University of Tulsa undergraduate must complete the requirements of the Tulsa Curriculum, as follows:

Core Requirements	18
AS 1001.....	1
English 1033.....	3
First Seminar.....	3
Language*.....	8
Math 1083 or 1093.....	3
Block I (Aesthetic Inquiry and Creative Experience)	6
Music 1043, Jazz: Mirror of American Society.....	3
One Block I elective**	3
Block II (Historical and Social Interpretation)	12
Mus 3253, 3263, 3273 Music History I, II, III.....	9
One Block II elective.....	3
Block III (Scientific Investigation)	7

One Block III elective.....	3
One Block III elective with lab.....	4

*B.M.E. students may satisfy the regulation of the Oklahoma Commission on Teacher Preparation by completing TU language course 2013 with a grade of C, or 2003 with a grade of B, or 1014 with a grade of A.
 **B.M.E. student in the instrumental track take Mus 1113, The Art of Singing, to fulfill this requirement.

B.A.

Mus 1000-4000, Recital Attendance (15 per semester).....	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
Applied Music (Studio Lessons).....	8
Ensembles - 8 semesters*	8
Music Electives	16
Music Theory, Music History/Literature, Pedagogy, Secondary Instrument, or Chamber Music**	
TOTAL HOURS***	49

*Eight hours of ensemble are required by the music faculty; only two hours count toward the B.A. degree.
 **A minimum of three hours must be at the 3000-4000 level.
 ***Only 39 hours count toward the 124 required for graduation.

The Music Core for Professional Degrees

All students in the bachelor of music and bachelor of music education degree programs complete the courses in the music core. These requirements reflect the guidelines of the National Association of Schools of Music (NASM) concerning musical competencies common to all professional baccalaureate degrees in music.

The Music Core Curriculum for the B.M. and B.M.E Degrees

Performance	22
Ensemble (8 semesters)	8
Applied Study	8
Piano*	4
Mus 3062, Conducting	2
Music Theory	16
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 Lab III.....	1

Mus 2013, Music Theory III.....	3
Mus 2021, Ear Training Lab IV.....	1
Mus 2023, Music Theory IV.....	3
Repertory and History	9
Mus 1000-4000, Recital Attendance 8 semesters (15 per semester).....	0
Mus 3253, Music History I**	3
Mus 3263, Music History II**	3
Mus 3273, Music History III**	3
Synthesis	3
Mus 4973, Senior Seminar***	3
*These hours are waived for music education students whose primary instrument is piano.	
**Music History I, II and III also fulfill Block II requirements in the Tulsa Curriculum.	
***Music Education majors enroll in Mus 4363, Music in the Secondary Schools, to fulfill their senior requirements.	
TOTAL HOURS.....	50

B.M. in Instrumental Performance

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
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Additional Music Requirements

Performance.....	27
Additional Applied Study	12
Mus 0131, Chamber Music (4 semesters)	4
Mus 4162, Advanced Instrumental Conducting.....	2
Mus 4993, Music Performance Repertoire	3
Instrumental Pedagogy.....	6
Junior Recital.....	0
Senior Recital.....	0
Repertory and History.....	3
Mus 4053, Symphonic Literature.....	3
Music Electives	10
Music History, Theory, Literature, or Applied Music Electives.....	10
TOTAL HOURS.....	124

B.M. in Performance (Orchestral Instruments)

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
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Additional Music Requirements

Performance.....	29
Additional Applied Study	12
Mus 0131, Chamber Music (4 semesters).....	4
Mus 0211, 0221, 0231, 0241, Orchestral Repertoire Masterclass I-IV (4 semesters).....	4
Mus 0311, Orchestral Repertoire Audition/Jury.....	1
Mus 3062, Conducting.....	2
Mus 4162, Advanced Instrumental Conducting.....	2
Mus 4223, Pedagogy and Performance Repertoire I	3
Mus 4233, Pedagogy and Performance Repertoire II.....	3
Junior Recital.....	0

Senior Recital.....	0
Repertory and History.....	3
Mus 4053, Symphonic Literature.....	3
Music Electives	8
Music History, Theory, Literature, or Applied Music Electives.....	12
TOTAL HOURS.....	124

B.M. in Piano Performance

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
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Additional Music Requirements

Performance.....	28
Additional Applied Study	12
Mus 0131, Chamber Music (4 semesters)	4
Mus 4162, Advanced Instrumental or Choral Conducting.....	2
Mus 0141, Accompanying (2 semesters).....	2
Mus 4293, Piano Pedagogy (2 semesters).....	6
Mus 4992, Independent Study.....	2
Junior Recital.....	0
Senior Recital.....	0
Repertory and History.....	6
Mus 4053, Symphonic Literature.....	3
Mus 4143, Piano Literature.....	3
Music Electives	6
Music History, Theory, Literature, or Applied Music Electives.....	6
TOTAL HOURS.....	124

B.M. in Vocal Performance

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
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Additional Music Requirements

Performance.....	30
Additional Applied Study	12
Mus 0161, Opera Workshop (6 semesters).....	6
Mus 2092, Diction for Singers I.....	2
Mus 2212, Diction for Singers II.....	2
Mus 4162, Advanced Choral Conducting.....	2
Mus 4403, Vocal Pedagogy (2 semesters).....	6
Junior Recital.....	0
Senior Recital.....	0
Repertory and History.....	6
Mus 4273, Opera Literature.....	3
Mus 4413, Vocal Literature.....	3
Music Electives	4
Music History, Theory, Literature, or Applied Music Electives	4
TOTAL HOURS.....	124

B.M. in Composition

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
Additional Music Requirements	
Performance	2
Mus 4162, Advanced Conducting.....	2
Repertory and History	3
Mus 4053, Symphonic Literature.....	3
Composition and Advanced Theory.....	27
Mus 2182, Composition I.....	2
Mus 2192, Composition II.....	2
Mus 3013, Counterpoint I.....	3
Mus 3023, Counterpoint II.....	3
Mus 3042, Composition III.....	2
Mus 3052, Composition IV.....	2
Mus 3043, Instrumentation.....	3
Mus 4203, Composition V.....	2
Mus 4213, Composition VI.....	2
Mus 4420, Compositional Recital Preparation.....	0
Mus 4430, Compositional Recital Preparation.....	0
Mus 4463, Schenkerian Analysis.....	3
Mus 4473, Analysis of Music Literature.....	3
Music Electives	8
Music History, Theory, Literature, or Applied Music Electives.....	8
TOTAL HOURS.....	124

B.M. in Music Theory

Students in the music theory degree program may choose a research, composition or performance emphasis.

A research emphasis results in a senior thesis.

A composition emphasis leads to a final composition project with an optional recital and a shorter analytical paper.

A performance emphasis results in a lecture/recital and a final analytical paper. This final analytical paper can be related to the literature of the lecture/recital.

There are more writing of analytical papers in the theory classes for all theory majors.

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
Additional Music Requirements	
Performance	4
Mus 4162, Advanced Conducting.....	2
Mus 3352, Jazz Improvisation I.....	2
Composition and Advanced Theory.....	20
Mus 2182, Composition I.....	2
Mus 3013, Counterpoint I.....	3
Mus 3023, Counterpoint II.....	3
Mus 3043, Instrumentation.....	3
Mus 4463, Schenkerian Analysis.....	3
Mus 4473, Analysis of Music Literature.....	3

Senior Thesis or Lecture/Recital (final semester of Directed Studies, Composition, or Applied Music).....	3
Music Electives	16
Music History, Theory, Literature, or Applied Music Electives.....	16
TOTAL HOURS.....	124

B.M.E. in Instrumental Music

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
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Additional Music Requirements

Performance/Music Education.....	20
Mus 1031, Guitar Proficiency.....	1
Mus 3163, Elementary Music Education.....	3
Mus 3243, Instrumentation.....	3
Mus 4162, Advanced Instrumental Conducting.....	2
Mus 4363, Music in the Secondary School.....	3
Mus 4802, Woodwind Instrument Methods.....	2
Mus 4812, Stringed Instrument Methods	2
Mus 4822, Brass Instruments Methods.....	2
Mus 4832, Percussion Instrument Methods.....	2
Recital.....	0
Professional Education	28
Educ 1101, Introduction to Education.....	1
Educ 2104, Foundations of Education.....	4
Educ 3713, Child and Adolescent Development.....	3
Educ 3733, Evaluation in Education.....	3
Educ 4221, Field Experience.....	1
Educ 4013, Education and the Exceptional Child.....	3
Educ 4616, Elementary Student Teaching.....	6
Educ 4626, Middle School Student Teaching, or.....	
Educ 4636, Senior High Student Teaching.....	6
Educ 4971, Seminar Student Teaching.....	1
TOTAL HOURS.....	132

B.M.E. in Vocal Music

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
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Additional Music Requirements

Performance/Music Education.....	18
Additional Piano.....	2
Mus 1031, Guitar Proficiency.....	1
Mus 2092, Diction for Singers I.....	2
Mus 2212, Diction for Singers II.....	2
Mus 4162, Advanced Choral Conducting.....	2
Mus 3163, Elementary Music Education	3
Mus 3243, Instrumentation.....	3
Mus 4403, Vocal Pedagogy.....	3
Recital.....	0

Professional Education	28
Educ 1101, Introduction to Education.....	1
Educ 2104, Foundations of Education.....	4
Educ 3713, Child and Adolescent Development.....	3
Educ 3733, Evaluation in Education.....	3
Educ 4221, Field Experience.....	1
Educ 4013, Education and the Exceptional Child.....	3
Educ 4616, Elementary Student Teaching.....	6
Educ 4626, Middle School Student Teaching, or	
Educ 4636, Senior High Student Teaching.....	6
Educ 4971, Seminar Student Teaching.....	1
TOTAL HOURS.....	130

B.M.E. in Vocal Music with a Piano Emphasis

The Tulsa Curriculum and Music Core Requirements (pp. 139, 140)	84
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Additional Music Requirements

Performance/Music Education.....	22
Voice.....	6
Mus 1031, Guitar Proficiency.....	1
Mus 2092, Diction for Singers I.....	2
Mus 2212, Diction for Singers II.....	2
Mus 4162, Advanced Choral Conducting.....	2
Mus 3163, Elementary Music Education.....	3
Mus 3243, Instrumentation.....	3
Mus 4403, Vocal Pedagogy.....	3
Recital.....	0
Professional Education.....	28
Educ 1101, Introduction to Education.....	1
Educ 2104, Foundations of Education.....	4
Educ 3713, Child and Adolescent Development.....	3
Educ 3733, Evaluation in Education.....	3
Educ 4013, Education and the Exceptional Child.....	3
Educ 4221, Field Experience.....	1
Educ 4616, Elementary Student Teaching.....	6
Educ 4626, Middle School Student Teaching, or	
Educ 4636, Senior High Student Teaching.....	6
Educ 4971, Seminar Student Teaching.....	1
TOTAL HOURS.....	130

Minor in Music12-15

Applied Music.....	2
Ensemble.....	1
Mus 1013, Music Theory I.....	3
Mus 3253 or 3263, Music History I or II.....	3
Music History or Literature, 3000 level or above	3
Additional hours may include:	
Applied Music.....	2
Ensemble, or Music Theory, or Music Literature, or Music History, or Class Piano,	
or Class Guitar.....	1

0021 (1 hour)

University Band

Open to all students. Members form the nucleus of the Symphonic Wind Ensemble, Concert Band, and Golden Hurricane Marching Band.

0031 (1 hour)

University Orchestra

Membership available to all qualified persons through audition. The standard symphonic and chamber literature is studied and performed.

0041 (1 hour)

University Chorus

Open to all students without audition. Repertoire includes major choral works and standard choral literature, both accompanied and a cappella.

0051 (1 hour)

TU Chorale

Open to all students through audition. The repertoire includes all types of choral literature. Public performances given throughout the year, both in Tulsa and on tour throughout the U.S.

0061 (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 I; 2) Big Band II; 3) Vocal Jazz; 4) Jazz Guitar Ensemble; 5) Jazz Improvisation Lab I; 6) Jazz Improvisation Lab II; 7) Jazz Improvisation Lab III; 8) Jazz Improvisation Lab IV.

0131 (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.

0161 (1 hour)

Opera Theatre

Study and public presentation of standard and contemporary opera literature, music comedy,

and operetta. Open through audition. Includes staging a major production.

0211, 0221, 0231, 0241

Orchestral Repertoire Master Class I - IV

0311 (1 hour)

Orchestral Repertoire Audition/Jury

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.

0511-3 (1-3 hours)

Bassoon

0521-3 (1-3 hours)

Clarinet

0531-3 (1-3 hours)

Flute

0541-3 (1-3 hours)

French Horn

0551-3 (1-3 hours)

Oboe

0561-3 (1-3 hours)

Organ

0571-3 (1-3 hours)

Percussion

0581-3 (1-3 hours)

Piano

0591-3 (1-3 hours)

Saxophone

0601-3 (1-3 hours)

String Bass

0611-3 (1-3 hours)

Trombone

0621-3 (1-3 hours)

Trumpet

0631-3 (1-3 hours)
Tuba

0641-3 (1-3 hours)
Viola

0651-3 (1-3 hours)
Violin

0661-3 (1-3 hours)
Violoncello

0671-3 (1-3 hours)
Voice

0701-3 (1-3 hours)
Guitar

0711-3 (1-3 hours)
Electric Bass

0721-3 (1-3 hours)
Euphonium

1000, 2000, 3000, 4000 (0 hours)
Recital Attendance

All music majors are required to take this course on a pass-fail basis for 8 semesters. At least 15 recitals per semester are required.

1000, 2000, 3000, 4000 (0 hours)
Production Experience

Required of all musical theatre majors for 8 semesters on a pass/fail basis. Students must participate in either the musical or technical aspects of the production each semester.

1011 (1 hour)
Music Theory 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 analyt-

ical skills and the study of music from the common practice period.

1021 (1 hour)
Music Theory 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)
Jazz: Mirror of American Society

Late 19th-century to present day America traced through jazz artists and styles.

1083 (3 hours)
Poets of the Piano

A selective examination of historically significant, virtuoso pianists/composers, through their music, professional and personal lives.

1113 (3 hours)
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.

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 Music 1141.

2011 (1 hour)

Music Theory 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)

Music Theory 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.

2043 (3 hours)

Blacks in Classical Music

The lives and works of African Americans and other persons of African descent who have contributed significantly to music in the European-classical tradition.

2063 (3 hours)

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)

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)

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

Italian and English pronunciation as related to singing. Emphasizes the differences between the spoken and sung language and addresses the special problems of articulation on consonants and modification of vowels in relation to good vocal production.

2123 (3 hours)

Music Cultures of the World

Examines various forms of non-western ethnic music with a goal of achieving a global perspective. Includes musical cultures of India, Middle East, China, Japan, Indonesia, subSaharan Africa, American Indians, and Latin America.

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 develop own composition styles. 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.

2212 (2 hours)

Diction for Singers II

Continuation of 2092, Diction for Singers I, focusing on French and German as related to singing.

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.

3063 (3 hours)**Conducting**

Theory and fundamentals of conducting choral or instrumental music.

3163 (3 hours)**Elementary Music Education**

Procedures for teaching classroom music in elementary school as well as philosophy and principles of elementary music curriculum design. Prerequisite: Mus 2023.

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.

4013 (3 hours)**Major Composers**

Examination of the music of a major composer. Discussion centers on identifying the composer's most significant contributions in relation to the evolution of musical style.

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**

Survey of piano literature from the 17th through 20th centuries. Historical, formal, and stylistic elements of the music are considered.

4153 (3 hours)**Women in Music**

Women as composers, performers, patrons, and teachers of music, from the medieval period to the 20th century. Interdisciplinary methods, with focus on the influence of gender, race, and class on the construction of music history. Musicians studied include Hildegard of Bingen, Clara Schumann, Fanny Hensel, Thea Musgrave, and Marian Anderson.

4162 (2 hours)**Advanced Conducting**

Theoretical and practical aspects of score study, psychological control, clarity of physical gestures, and style.

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 (3 hours)

Pedagogy and Performance Repertoire I

4233 (3 hours)

Pedagogy and Performance Repertoire II

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.

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

Basic pedagogical concepts of vocal teaching are studied and applied in a practicum.

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.

4463 (3 hours)

Schenkerian Analysis

Investigates musical structure according to principles discovered by Austrian theorist Heinrich Schenker. Develops graphing techniques. Student projects.

4473 (3 hours)

Analysis of Music Literature

Advanced harmonic, formal, and style analysis of complete pieces of a particular composer or genre. Student projects.

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)

Stringed 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.

4991-3 (1-3 hours)

Independent Study

Independent study on special topics. Prerequisite: Permission of instructor.

Philosophy and Religion

Chair

Jane Ackerman, Religion

Professors

Nicholas Capaldi, Philosophy

Russell Hittinger, Religion

Associate Professors

Jane Ackerman, Religion

John Bowlin, Religion

Jacob Howland, Philosophy

Henry F. Knight, Jr., Religion

Assistant Professor

Stephen L. Gardner, Philosophy

The Department of Philosophy and Religion offers programs of study in two separate disciplines, philosophy and religious studies. Students may pursue the B.A. degree in either philosophy or religion. Programs of the two disciplines are listed separately below.

Philosophy

The requirements for a B.A. degree in philosophy are structured to afford maximum opportunity for planning a program suited to the student.

Major Subject

A major must take nine hours of philosophy at the 1000 or 2000 level and 18 hours at the 3000 or 4000 level. The work must include one course in logic or reasoning, one course in ethics, and two courses with a historical emphasis.

Minor Field

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.

1003 (3 hours)**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.

1023 (3 hours)**Issues in Biomedical Ethics**

Significant moral problems challenging the biomedical field, including issues concerning abortion, euthanasia, medical experimentation, genetic engineering, health care allocation, professional obligation, and patient rights. Competing decision procedures for professionals in the biological sciences, medicine, and law are compared.

1033 (3 hours)**Philosophy and Literature**

An exploration of the philosophical significance of major works of literature.

1043 (3 hours)**Understanding Science**

Foundations of the scientific method, including the nature of scientific models, relations between models and predictions, use of observational data, procedures for testing models, the logic of experimental design, use of statistical methods and statistical inference, and probability models. Examples drawn from various sciences and historical episodes.

1053 (3 hours)**Meaning and Value in the Arts**

The reflective approach to the arts, concentrating

on two seminal issues: What do the arts mean? What is their value? Visual, auditory, and literary works are analyzed, and problems of assessing their meaning and value are considered philosophically.

1063 (3 hours)

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.

1083 (3 hours)

The Intellectual Evolution of Western Civilization I

Major intellectual conflicts that have shaped Western civilization from biblical times to present, addressing such issues as whether there is permanence amid change and whether there is meaning or value in the notion of a core of ideas. Examines role of Western civilization's critics, including (Part II) those emphasizing gender, class, and race. Part I: Biblical times through the Reformation; may be taken independently of Part II.

1093 (3 hours)

The Intellectual Evolution of Western Civilization II

Same description as Part I. Part II: From the Scientific Revolution to the present. May be taken independently of Part I.

2013 (3 hours)

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)

Western Political Thought I: From the Greek Polis to the Modern State

The idea of pagan antiquity in Greece and Rome, focusing on Plato and Aristotle, along with other writers. Attention also paid to the role of Christianity in the evolution of Western political ideas. Same as Pol 2083.

2093 (3 hours)

Western Political Thought II: From the English Revolution to the Russian Revolution

The political theory of Western modernity from the 16th to 19th centuries. Lectures follow 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.

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)

Existentialism in the 20th Century

Existential thought and related philosophies of the 20th century, including its influence on modern psychology, theology, and the arts.

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 sci-

entific 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. Traditional and contemporary views and positions are examined. Prerequisite: One previous course in philosophy.

3083 (3 hours)

Philosophy of Mind

Selected philosophical attempts to clarify the nature of mind are examined. Rival theories presented and assessed by considering topics such as the relation between mind and brain, the nature of consciousness, knowledge of the mental states of others, minds, and computers, and the identity of the self over time. Prerequisite: A course in a related subject or permission of instructor.

3093 (3 hours)

The American Pragmatist

American thought in the 19th and 20th centuries. An examination of pragmatism as a major movement with consideration of its influence on literature and social thought. Prerequisite: Upper-division standing or permission of instructor.

3103 (3 hours)

Symbolic Logic

Examines simple artificial languages useful in analyzing the logical form of propositions and arguments. Emphasis on learning to symbolize ordinary language arguments, test for validity, and construct formal proofs.

3113 (3 hours)

Value Theory

Major meta-ethical theories of the nature of value and moral obligation, including intuitionism, ethical naturalism, emotivism, and rationalism. Topics include the meaning and function of evaluative language, the subjectivity and objectivity of value judgment, and the relation of normative disciplines to scientific theories. Prerequisite: One previous course in philosophy or

permission of instructor.

3133 (3 hours)

20th-Century Analytical Philosophy

Analytic philosophy in Europe and the U.S. from the turn of the century to the present. Topics include the rejection of idealism, Russell, Moore, the logical positivists, Wittgenstein and ordinary language philosophy, and contemporary developments. Prerequisites: A previous course in philosophy.

3143 (3 hours)

Equality and the Social Order

The difficulties of balancing demands for economic equality with efficiency, liberty, individualism, and justice. Equality of opportunity, reverse discrimination, and the right to welfare are considered. Same as Pol 3143. Prerequisite: Phil 2083 or 2093, or junior standing.

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)

The Philosophy of Wittgenstein

Introduction to Wittgenstein's philosophy, both early and late, with emphasis on his philosophies of language, mind, and science. Prerequisites: At least two courses in philosophy or permission of instructor.

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.

3263**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

3701-3791 (3 hours)**Intermediate Topics in Philosophy**

A series of five-week courses for the student who has already had some philosophy courses. Each course focuses on a single topic such as induction, truth, the concept of a person, philosophy and medicine, philosophy and law, philosophy and biology, and philosophy and careers. Prerequisite: Upper-division standing or one previous course in philosophy.

4023**Contemporary Philosophy and Religious Belief**

The theological character of certain aspects of contemporary philosophy and the philosophical significance of certain modern theological proposals. Same as Rel 4xxx.

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.

4053 (3 hours)**Aesthetics**

Problems in aesthetics that confront the artist, writer, critic, and teacher. Independent research in an area of the student's interest. Prerequisite: One course in philosophy or one of the fine arts 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, one previous course in philosophy, or Interdisciplinary 2043. Same as Pol 4063.

4073 (3 hours)**Phenomenology**

A recent philosophical movement that analyzes psychological, physical, cultural, and logical features of the world as pure objects of experience. Existentialism is included. Prerequisite: One course in philosophy.

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 prizes of wisdom. Supplementary reading may include sections from Ancient Greek poetry, drama, and history. Prerequisite: One course in philosophy or permission of instructor.

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. Prerequisite: Phil 1003 and 2043 or 2053.

4973 (3 hours)**Senior Seminar**

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 program encourages a critical approach to the study of religion, emphasizing literary, philosophical, theological, and moral inquiries. Course offerings are designed to expose students to the variety of religious belief and practice and to deepen their understanding of religious language and literature. Courses are taught in the following curriculum areas: the Bible and literature; ethics and society; and philosophy and religion. Like other degree programs in the humanities, the B.A. in religion cultivates the habits of mind one needs in order to think and write with care and precision, habits that are invaluable for students considering careers in law, divinity, medicine, journalism, education, and, of course, in the scholarly study of religion.

The Major

At least 27 semester hours in religion with at least 18 hours at the 3000-4000 level are required. Those who major in religion also must complete a minor of 12 to 18 hours chosen with the consent of their advisor. Two of these courses must be at the 3000-4000 level.

The Minor

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

Students considering a master of divinity or master of theological studies at Phillips Graduate Seminary may consult the Faculty of Religion concerning courses that may be taken for credit toward a Phillips degree.

1003 (3 hours)

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.

2013 (3 hours)

The Old Testament as Literature

Theological, cultural, geographic, and literary features of the Old Testament (Hebrew Bible). Inquiry into characterization, internal structure, parallels between passages, story, and relation of story to theology.

2023 (3 hours)

The New Testament as Literature

The story of Jesus' life as it appears in three New

Testament narratives: 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)

Roman Catholicism

An overview of Roman Catholicism, its worldview, history, rituals, ethics, and contemporary trends.

2203 (3 hours)

Jesus: Traditional and Contemporary Perspectives

New Testament, traditional, contemporary, and comparative religious perspectives on Jesus of Nazareth.

2333 (3 hours)

Christian Ethics and Modern Society

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)

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.

2503 (3 hours)

God and Human Suffering

The attempt to make sense of moral and natural evil given the theological commitments of classical monotheism.

2583 (3 hours)

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.

3243 (3 hours)

Dante and Modernist Writers

Parallelisms between Dante's *Vita Nuova* and *The Divine Comedy* and writers such as Eliot, Joyce, Pound. Examines the matrix of literary influences and exceptional innovations achieved in English poetry and prose through a reassessment of Dante's linguistic skills and his reliance on experimentation with language and poetic forms. Same as CpLt 3243.

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 secu-

lar sense of the moral world and to critics of this effort, both secular and theological. Same as Phil 3263.

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. Same as Soc 4023.

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. Same as Anth 3443. Prerequisites: Anth 1063, 2043, or permission of instructor.

3503 (3 hours)

Paul and Early Christian Experience

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. Same as CpLt 3523.

3971-3 (1-3 hours)

Seminar: Special Topics in Religion

Various topics. Prerequisite: One previous course in religion or permission of instructor.

4023

Contemporary Philosophy and Religious Belief

The theological character of certain aspects of contemporary philosophy and the philosophical

significance of certain modern theological proposals. Same as Phil 4xxx

4033

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

Augustine

An introduction to the theology of Augustine of Hippo, with special attention to his moral and political writings.

4053

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.

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.

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.

4971-3 (1-3 hours)

Seminar: Selected Topics

Prerequisite: Permission of instructor.

4991-3 (1-3 hours)

Independent Readings

Prerequisite: permission of instructor.

The following courses may be applied toward religion credit. See Languages for course details.

Greek

1008, Greek Grammar Workshop

2006, Greek Reading workshop

Political Science

Chair

Michael A. Mosher

Professors

Robert H. Donaldson
Eldon J. Eisenach
Thomas A. Horne

Associate Professors

Edward C. Dreyer
Jeffrey D. Hockett
Kalpana Misra
Michael A. Mosher
W. Marvin Will

All courses in political science are listed in one of three areas: American politics, international studies, or political and legal theory. For a major in political science, an introductory-level course is required in American politics (2053), in international studies (2023, 2033, or 2113), and in political and legal theory (2083 or 2093). One introductory course in the area of economic or political economy is also required. Another 21 credit hours are required at the 3000-4000 level and must include at least one course in each of the three areas. A minor field or certificate is also required.

Students seeking teacher certification in social studies complete a second major in education and additional courses in history, economics, sociology, and geography as prescribed by the state approved program (pp. 100-105) in combination with the major in political science.

Washington, D.C., Internship Program

Juniors and seniors are invited to apply to the Washington Semester Internship Program. The internship is a one-semester program for 15 hours of course credit that includes placement in congressional offices, executive agencies, judicial organizations, public and special interest groups, national associations, and community programs. Students also enroll in an academic seminar while in Washington and prepare a research paper based on their internship experience. Interns register as full-time students and pay university tuition and housing fees. Additional scholarship aid may be available to cover travel expenses. The program is affiliated with the Washington Center. Consult the political science faculty for additional information.

American Politics

1003 (3 hours)

American Politics

An examination of American political culture and values, constitutional and other political institutions, patterns of political behavior, and contemporary issues and problems confronting America.

2053 (3 hours)

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.

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

The organization, function, and power of the courts in the American political system.

3203 (3 hours)**American Political Development**

Periods of major philosophical, institutional, and political change in America are examined. Documents in political thought, leading court decisions, and studies of political movements and conflicts provide the materials for analysis.

3213 (3 hours)**American Parties and Political Culture**

The interplay between societal beliefs and values and the development of the American party electoral systems.

3343 (3 hours)**Civil Liberties in the United States**

Case law and political practice involving the relationship of the individual to the government. Emphasis on the Bill of Rights and the 14th Amendment, which limit the actions of governments.

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. Environmental and regulatory policies are stressed.

3463 (3 hours)**Constitutional Law**

The development of constitutional doctrine concerning public power that has resulted from U.S. Supreme Court cases and decisions.

4513 (3 hours)**Topics in Public Affairs**

Joint student and faculty exploration of a substantive topic in domestic American politics. The topic itself will change from one semester to another.

International Studies**2023 (3 hours)****European Politics**

A survey of the new Europe, from Dublin to Moscow, in relation to its political history and future prospects. Geography, economic issues, and military matters are stressed along with the question: Does Europe have a cultural identity?

2033 (3 hours)**International Relations in a Changing World**

A survey of basic elements, institutions, and processes of international relations and an overview of the relevant theories regarding the conduct of such relations.

2043 (3 hours)**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.

2113 (3 hours)**Politics of Developing Nations**

The political processes of establishing order in the face of change in the emerging nations of Africa, Asia, and Latin America and the insular Pacific and Caribbean. Development theory and assessment of U.S. policy vis--vis the developing nations are also focal points.

2663 (3 hours)**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.

3053 (3 hours)**American Foreign Policy**

The process of formulating U.S. foreign policy, with emphasis on the Department of State and the Foreign Service. Concludes with an analysis of the major problems of American policy in action.

3093 (3 hours)**International Law and Organizations**

The evolution, structure, function, and utility of intergovernmental organizations, including the United Nations' family of institutions and major regional institutions. The role of law in conflict resolution and institution-building also included.

3113 (3 hours)**Comparative Foreign Policy**

Comparative analysis of the policy determinants and approach to foreign policy of the major powers in the Western, Communist, and non-aligned world and of such non-state actors as transna-

tional terrorist groups and multinational corporations.

3163 (3 hours)

20th-Century Revolutions

The theory, process, and impact of 20th-century revolutions and the role of U.S. policy in those revolutions.

3333 (3 hours)

Latin American Politics

A comparative analysis of the historical legacy, structures, functions, and public policies of selected Latin American political systems.

3353 (3 hours)

Politics and Culture of Japan

Japan in the light of Pacific Rim development provides the occasion for asking two questions that reach beyond Japan: Are there different kinds of capitalisms and democratic states? Are cultural explanations important for understanding behavior or are they masks of ignorance?

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.

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 collapse of Communism and break-up of the Soviet Union.

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.

4503 (3 hours)

Topics in International Studies

Joint student and faculty exploration of a substantive topic in contemporary international relations or comparative politics. The topic itself changes from one semester to another.

Political and Legal Theory

2043 (3 hours)

Law and Society

First course for the legal thought certificate. Introduces the study of law and its relation to other social institutions and processes. Critical examination of the character and functioning of the American legal system, the justification and limits of legal coercion, relations between law and morality, and the nature of legal reasoning.

2083 (3 hours)

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.

2093 (3 hours)

Western Political Thought II

The political theory of Western modernity from the 16th to 19th centuries. Lectures follow changes in the idea of the individual and of the political community from the Renaissance to the Enlightenment, and from the era of democratic revolutions to the rise of industrial societies. Same as Phil 2093.

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.

3133 (3 hours)

Contemporary Political Thought

Philosophical questions about the politics of the 20th century, whose failures brought into doubt the worth of modernity and whose successes confirmed the noblest ideals of the Enlightenment.

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, social, and political life. Same as Phil 3143.

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.

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 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. Same as Phil 4063.

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.

Other

3591-9 (1-9 hours)

4591-9 (1-9 hours)

Internship

Juniors and seniors in internship programs under the direction and with the permission of the faculty.

4991-9 (1-9 hours)

Independent Study

Study abroad, independent reading, and research projects undertaken with permission of the instructor.

Psychology

Chair

Tod Sloan

Associate Professors

Allan Harkness

Tod Sloan

Professors

Judy Berry

Robert Hansson

Robert Hogan

Pawel Lewicki

Terrence Luce

Assistant Professors

Michael Basso

Eric Daleiden

John McNulty

Elana Newman

Deidra Schleicher

Robert Tett

The aims of the undergraduate major in psychology are several: to develop a scientific understanding of human behavior and experience, 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 B.A. degree and excellent 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 majors are encouraged to take part in activities beyond their formal course work such as faculty research projects, departmental colloquia, and service learning in community settings.

Requirements for the Psychology Major

The B.A. in psychology requires a total of 33 credit hours in psychology, excluding those counted toward general curriculum requirements. 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. Given that the major allows flexibility in course choices, students are strongly urged to check with their advisors to select courses in a meaningful order and in relation to their own career plans.

Foundation Courses (12 credit hours, all required)

Psy 2023, Statistics for Behavioral Sciences

Psy 2253, Foundations of Psychology

Psy 3013, Research Methods

Psy 3023, Assessment of Individual Differences

Core Courses (12 credit hours)

Choose four of the following:

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 credit hours)

Choose two of the following:

- Psy 1033, Psychology and the Law
- Psy 2203, Institutions and Social Development
- Psy 3073, Industrial/Organizational Psychology
- Psy 3083, Clinical Psychology and Behavior Change
- Psy 3973, Seminar in Psychological Theory
- Psy 4023, Psychology of Women
- Psy 4043, Aging and Society
- Psy 4063, Multicultural Community Psychology
- Psy 4093, Children and Families with Special Needs
- Psy 4163, Psychology and Social Change
- Psy 4183, Topics in Personality
- Psy 4771, Clinical Psychology Practicum
- Psy 4871-3, Community Psychology Practicum

TOTAL HOURS.....33

Minor Field

Twelve hours, six of which must be at the 3000 level or above, in subjects taught by a faculty or faculties outside psychology. To be selected in consultation with psychology advisor.

1033 (3 hours)

Psychology and the Law

Examines the relationship between the fields of law and psychology by investigating several topics at the interface of the legal and mental health professions. Issues such as involuntary hospitalization of the mentally ill, criminal behavior, punishment and deterrence, eyewitness testimony and criminal procedure, and the insanity defense are examined.

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. Prerequisite: Psy 2253 or introductory psychology course.

2203 (3 hours)

Institutions and Social Development

Surveys the relationship between institutional and cultural features and personal development.

Examines empirical research on such social problems as censorship, injustice, substance use and abuse, aggression, and family functioning.

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. Required of majors as a prerequisite for 3000- and 4000-level courses.

3013 (3 hours)

Research Methods

Introduction to principles of scientific research in the social sciences. Experience with experimental, correlational, and survey techniques is provided. Theoretical justifications for each approach are discussed. Prerequisite: A previous course in psychology. Prerequisites: Psy 2023 and Psy 2253 or equivalent.

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 3013 or permission of instructor.

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. Prerequisite: Upper-division standing or permission of instructor.

3053 (3 hours)

Social Psychology

Systematic overview of experimental studies of the effects of social interaction on attitudes and behavior. Prerequisite: Upper-division standing.

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 or equivalent.

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 inter-

viewing and evaluation; and development of change programs for child and adult behavior problems. Prerequisite: Psy 3033.

3973 (3 hours)

Seminar in Psychological Theory

Intensive analysis of a topic or figure in psychology. Theoretical works are critically evaluated in writing assignments and class discussion. Seminar format; the topic changes from semester to semester. Prerequisite: Psychology major or permission of instructor.

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. Prerequisites: Six hours in psychology and upper-division standing.

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.

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: Upper-division standing.

4043 (3 hours)

Aging and Society

Examines the nature and implications of aging. Emphasis on competing theoretical perspectives on later life as well as on practical issues such as coping with stress of bereavement, declining health and independence, families in later life, care-giving, abuse, and ageism.

4063 (3 hours)

Multicultural Community Psychology

Examines the role of culture, personality, and ethnicity in community well-being; the psychological impact of poverty, racism and sexism; and programs for prevention and community development.

4083 (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. Prerequisite: Upper-division standing.

4093 (3 hours)

Children and Families with Special Needs

Provides a lifespan focus to the study of people with disabilities, their families, and the professionals who provide the services and support that enhance their lives.

4123 (3 hours)

Personnel Psychology

Emphasizes a systems approach to personnel psychology, including: job analysis, performance evaluation, test development, test evaluation, selection, promotion, training, and decision-making.

4163 (3 hours)

Psychology and Social Change

Examines societal modernization, social movements, and interaction of culture and personality from various theoretical perspectives.

4183 (3 hours)

Topics in Personality

Examines contemporary themes and issues in personality theory and research.

4771 (1 hour)

Clinical Psychology Practicum

Provides practicum experience for undergraduate students of abnormal psychology. This course was developed to provide undergraduate students with exposure to individuals with serious, chronic mental illness. Concurrent enrollment in Psy 3083 is required.

4871-3 (1-3 hours)

Community Psychology Practicum

Supervised experience with community agencies or projects working to improve social well-being.

4991-3 (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.

Sociology

Chair

Susan E. Chase

Assistant Professor

Ronald Jepperson

Professor

Barry A. Kinsey

Emily Mumford Visiting Scholar in Medicine and Society

Julie Childers (2000-2001)

Associate Professors

T. Jean Blocker

Susan E. Chase

People spend their entire lives interacting with one another in groups ranging from the family to global systems. The study of human interaction at all levels is the core of the sociology major. Critical inquiry into one's own society and other societies and knowledge of scientific methods of social and cultural analysis are necessary components of a liberal education. These critical thinking skills and knowledge are useful to students regardless of their career goals. Sociology majors may design a program of study that prepares them for graduate work or law school, and careers in social service, government, research, teaching, or business. Internship and research opportunities are available to all majors. Students interested in careers associated with criminal justice should see the Certificate in Legal Thought.

The B.A. degree is offered in this area.

Major Subject

Soc 1033, The Sociological Imagination.....	3
Soc 2023, Statistics for Social Sciences.....	3
Soc 4113, Quantitative Methods of Sociological Research, or	
Soc 4123, Qualitative Methods of Sociological Research.....	3
Soc 4193, Foundations of Social Theory, or	
Soc 4203, Themes in Social Theory.....	3
Electives (18 hours)	
Students must choose 18 additional hours, with 15 hours at 3000-4000 level to be chosen with faculty advisor's approval	
TOTAL HOURS.....	30

Minor Field

Students must choose, with the advisor's approval, at least 12 hours in a minor field, six of which must be at the 3000-4000 level.

1033 (3 hours)

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 (z, t, F, Chi-Square, etc.). Models and interpretation of results. Prerequisite: Either

Math 1013 or two years of high school algebra. Credit will not be given for both this course and Stat 2013 (Applied Mathematics, College of Engineering and Natural Sciences).

2033 (3 hours)**Minorities**

Patterns of inter-group adjustment and conflict; characteristics of minority and majority groups. Intensive study of selected minorities. Prerequisite: Soc 1033, Anth 1063, or permission of instructor.

2043 (3 hours)**Juvenile Delinquency**

Youthful delinquency in changing society; emphasis on causes and methods of control. Prerequisite: Soc 1033 or permission of instructor.

2123 (3 hours)**Crime, Justice, and Social Order**

Comparative study of law, justice, and social order; classical and positivistic traditions; models of crime and justice and the role of law in modern society.

2133 (3 hours)**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.

3013 (3 hours)**Political Sociology**

Critical analysis of the unequal distribution of power in modern Western industrial society, especially in the U.S., with emphasis on explanations for the distribution and legitimations for the inequality from functionalist and conflict-oriented perspectives. Two diverse research and theoretical traditions—elitist and pluralist—are studied and critiqued. Prerequisite: Soc 1033.

3043 (3 hours)**Bureaucracies and the Bureaucratic World**

Bureaucratic institutions as social systems; formal and informal relationships, impact of industrialization on other institutions. Prerequisite: Soc 1033 or permission of instructor.

3053 (3 hours)**Socialization**

Theory and research focusing on the development of the individual as a social being and life-long participant in society. Historical and contemporary perspectives on the continuing interaction between the individual and society. Prerequisite: Soc 1033 or 2133.

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.

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.

3103 (3 hours)**Sociology of Aging**

The social, medical, and social-psychological aspects of aging; social and public policy issues related to the aged; future demographic trends and their implications for the aged and social policies in the United States.

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. Prerequisite: Soc 1033.

3123 (3 hours)**Family, Work, and Gender**

The relationship between the institutions of family and work and how that relationship has affected and been experienced differently by women and men. Prerequisite Soc 1033 or 2133.

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.

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.

3703 (3 hours)

Sociology of Medicine

Social science in and of medicine. Epidemiology, mortality, morbidity; roles, relationships, medical institutions. Social stress and illness: comparison of U.S. and other health care systems; death, illness, and sick-role behaviors; and health policy issues.

3731 (1 hour)

Sociology of Mental Health Disorders

Mental illness as deviant behavior, patient career, social and interpersonal factors in etiology, treatment, and recovery of mental patients.

3741 (1 hour)

Alcoholism, Drug Abuse

Social, socio-psychological, and pharmacological factors in drug use and abuse, drug classifications, patterns of abuse, drug subcultures, and treatment modalities.

3761 (1 hour)

Society and Health: Death and Dying

The social and psychological aspects of death and dying. Dying trajectories, care for dying patient, management of bereavement. Issues related to death and dying.

3863 (3 hours)

Criminal Law Process

The sources, purposes, and elements of criminal law; classification of crimes and criminal liability; the criminal justice process, including defini-

tions of culpability, defenses, arrest, prosecution, and disposition-limits of police power; due process, and judicial review.

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 permission of instructor.

4023 (3 hours)

Sociology of Religion

Study of historical and contemporary relationships between social groups and their sacred symbols and objects, including the forms and functions of religion, religious beliefs and rituals, the politics and economics of religion, religion and identity, and religious movements. Same as Rel 4023.

4033 (3 hours)

Social Interaction

Selected theoretical perspectives on the forms, processes, and consequences of human interaction, including such perspectives as symbolic interactionism, social phenomenology, ethnomethodology, conflict models, exchange models, and dramaturgical models. Prerequisite: Soc 1033.

4043 (3 hours)

Deviant Behavior

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, 2033, or 2133.

4113 (3 hours)

Quantitative Methods of Sociological Research

Techniques of gathering and analyzing quantitative data and its use in developing and testing sociological theory. Focus is on survey-research methods. Recommended for those planning advanced study in sociology or allied fields or employment in research agencies. 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.

4143 (3 hours)

Global Environmental Issues

The origins and consequences of global environmental degradation such as deforestation, water pollution, and threats to the earth's biodiversity. Emphasis on the unequal distribution of the world's resources and how it affects the state of our global environment.

4183 (3 hours)

Social Inequality

Theoretical and empirical accounts of the nature, causes, and consequences of the unequal distribution of wealth, status, and power in human societies. Topics include types of inequality, the creation and maintenance of inequality, images of inequality, and the interplay among social, economic, and political institutions in generating and explaining inequality. Prerequisite: Soc 1033 or 2133.

4193 (3 hours)

Foundations of Social Theory

19th and early 20th-century European social thought (with emphasis on Marx, Durkheim, and Weber) and its significance for the development of modern social science. Prerequisite: Soc 1033.

4203 (3 hours)

Themes in Social Theory

Focus on selected themes-e.g., ideas about the self and subjectivity, the social construction of reality, the sociology of knowledge, the relation between structure and culture-as developed by social theorists in various sociological traditions. Prerequisite: Soc 1033.

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.

Speech

Requirements for certification in Speech and Drama (double major in Theatre and Secondary Education) include completion of the following:

- The Tulsa Curriculum
- The major in Theatre (see Department of Theatre)
- The following Professional Education Sequence:
 - Educ 1101, Introduction to Education
 - Educ 2104, Foundations of Education
 - Educ 3713, Child and Adolescent Development and Learning
 - Educ 3733, Evaluation in Education
 - Educ 4013, Education of the Exceptional Child
 - Educ 4214, Middle and Secondary School Teaching Methods
 - Educ 4626, Student Teaching in Middle School
 - Educ 4636, Student Teaching in Secondary School
 - Educ 4971, Student Teaching Seminar
- The following additional courses, either as electives or as part of major, minor, or Block Course requirements:
 - Sp 2113, Public Speaking
 - Thea 1023, Vocal Usage for the Professions
 - or
 - Thea 2203, Voice and Movement for the Stage I
 - Thea 4333, Directing
 - Sp 2083, Debate
 - or demonstrate competency by portfolio
 - Comm 3473, Video Production: Studio
 - or
 - Comm 3573, Video Production: Location
 - or demonstrate competency by portfolio
 - Thea 2163, Oral Interpretation
 - or demonstrate competency by portfolio
 - Thea 2213, A Cultural History of Theatre
 - or
 - Thea 1243, Costumes through the Ages
- Demonstration by portfolio of active participation in TU student theatre organizations, assisting in production of performances and/or workshops.

The Theatre/Speech (Thea/Sp) courses listed below by area are required by the State of Oklahoma to fulfill the 40-hour specialization. Some of these are listed as block courses and may be counted towards fulfilling requirements for both certification and the blocks, permitting the student free electives outside the major. Or the student may take other block courses, or take the course for block credit and take other electives in the major. The student must have 40 hours in the specialization.

Thea/Sp 1023 (3 hours)

Vocal Uses for the Professions

See course description under Department of Theatre listings.

Sp 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.

Sp 2113 (3 hours)

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.

Thea/Sp 2163 (3 hours)

Oral Interpretation

An alternative approach to the study, comprehension, and presentation of literature. See description under Department of Theatre listings.

For bulletin descriptions of other certification courses, see Theatre or Communication sections.

Theatre

Chair

David Cook

Professor

David Cook

Associate Professor

Lisa Wilson

Applied Associate Professors

Susan Barrett

Yslan Hicks Pasco

Michael Wright

Applied Assistant Professor

Terry Silver-Alford (Musical Theatre)

Technical Director

Curt Selby

The Department of Theatre, School of Music, and School of Art form the Division of Fine and Performing Arts, whose programs lead to professional careers in the arts and to the appreciation of the fine and performing arts.

The B.A. in theatre offers a core curriculum supporting the collaborative process essential to the living theatre. In consultation with a theatre advisor, students choose courses leading to a general education in theatre or an emphasis in performance or design/technical theatre. 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 student may specialize in either performance or design/technical or choose to pursue a general theatre degree. Non-majors are also encouraged to participate in theatre productions and to take theatre courses.

The Department of Theatre is located in Kendall Hall, one of the finest theatre facilities in the region. Two theatres, with make-up room and scenery and costume shops, enable students to participate fully in traditional and experimental enactments of theatrical texts. Television studios provide additional outlets for practice in performing and directing. The department's wide variety of dramatic and musical productions unite the artistic achievement of the theatre student with the interests and needs of the university community and the city of Tulsa.

Students seeking secondary teacher certification in speech and drama complete a second major in education (pp. 100-105) and additional courses in speech (pp. 170-171) in combination with a major in theatre.

B.A. in Theatre (39 hours)

Required Core Courses (18 hours)

Thea 2323, Survey of Dramatic Literature

Thea 2333, Acting

Thea 2342, Costumeecraft

Thea 2352, Stagecraft

Thea 3011, Stage Management

Thea 3021, Stage Management Practicum

Thea 3043, Modern Theatre History and Literature

Choose one of the following three:

Thea 3103, Lighting Design

Thea 3253, Scene Design

Thea 3533, Costume Design

Electives (21 hours)

In consultation with your advisor, you may choose seven courses from among the following three areas or, you may pursue emphasis by taking all electives in a single area/discipline.

Performance Area

Thea 1001, 2001, 3001, 4001, Theatre Dance
Thea 0161, Musical Theatre Workshop
Thea 2203, Voice & Movement I
Thea 3203, Voice & Movement II
Thea 3343, Advanced Acting: Scene Study
Thea 3363, Musical Theatre Performance I
Thea 4203, Audition Techniques
Thea 4333, Directing
Thea 4353, Styles of Acting
Thea 4373, Musical Theatre Performance II
Thea 4561-3, Special Topics in Theatre
Thea 4991-3, Special Projects in Theatre

Design/Technical Area

Thea 3093, Rendering Techniques
Thea 3103, Lighting Design
Thea 3523, Scene Design
Thea 3533, Costume Design
Thea 3543, Stage Makeup & Masks
Thea 4363, Scene Painting
Thea 4513, Advanced Lighting Design
Thea 4561-3, Special Topics in Theatre
Thea 4533, Advanced Costume Design
Thea 4523, Advanced Scene Design
Thea 4991-3, Special Projects in Theatre

History/Literature Area

Thea 3023, Classical Theatre
Thea 3053, Playwriting I
Thea 3143, Screenwriting
Thea 3463, Musical Theatre History
Thea 3473, Musical Theatre Literature
Thea 4003, Playwriting II
Thea 4413, Contemporary Theatre and Drama
Thea 4561-3, Special Topics in Theatre

Minor Field

In consultation with the department chair, students choose at least 12 hours of course work in a field related to theatre. At least six of these hours must be at the 3000 or 4000 level.

Musical Theatre

Program Director: Terry Silver-Alford, Applied Assistant Professor, Theatre

Advisors: David B. Cook, Professor and Chair of Department of Theatre
Francis J. Ryan, Jr., Professor and Director of School of Music

B.A. in Musical Theatre

The B.A. 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.

Requirements

Music

Thea 1161, Musical Theatre Workshop I.....	1
Thea 3161, Musical Theatre Workshop II.....	1
Thea 2142, Musicianship for the Theatre I.....	2
Thea 2152, Musicianship for the Theatre II.....	2
Mus 0671, Studio Voice.....	8
Mus 1141, Class Piano I or 0581 Studio Piano.....	1
Mus 1151, Class Piano II or 0581 Studio Piano.....	1
Thea 1011, Vocal Coaching (to be taken in freshman and sophomore years).....	4
TOTAL HOURS	20

Theatre/Dance/Musical Theatre

Thea 1001, 2001, 3001, 4001, Theatre Dance.....	6
Thea 3101, Modern Dance or Thea 4101, Tap Dance.....	1
Thea 2341, Costumecraft or Thea 2062, Stagecraft.....	2
Thea 3533, Costume Design or Thea 3523, Scene Design or Thea 3103, Lighting Design.....	3
(The appropriate companion course must be taken, i.e, Costumecraft, Costume Design, or Stagecraft, Scene or Lighting Design)	
Thea 2203, Voice and Movement I.....	3
Thea 2333, Acting.....	3
Thea 3363, Musical Theatre Performance I.....	3
Thea 4373, Musical Theatre Performance II.....	3
Thea 3473, Musical Theatre Literature.....	3
Thea 3463, Musical Theatre History.....	3
TOTAL HOURS	30

Electives: Choose 9 hours of upper level courses in Theatre or Vocal Music, in consultation with program Director.

TOTAL HOURS	59
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Musical Theatre Minor

Students who wish to pursue a secondary study (minor) in musical theatre must show a strong ability in music and theatre. Permission of the program director is required and an audition may also be required. The course of study, in close consultation with the musical theatre specialist, will be chosen from the available offerings in the musical theatre major. The essential core is as follows:

Mus 1671-4671, Voice (see Musical Theatre director)	
Thea 3363, Musical Theatre Performance I	3
Thea 3463, Musical Theatre History	3

The musical theatre minor consists of a minimum of 12-18 hours of study, depending upon proficiencies and audition results.

*0161 (1 hour)

Musical Theatre Workshop I

An ongoing workshop to enhance the musical theatre student's ability to integrate acting, singing, and dance through a range of performance materials. Public performance as a culmination of study.

*1001, 2001, 3001, 4001 (1 hour)

Theatre Dance

Ballet and jazz techniques and vocabulary. All elements build toward combinations in various styles of movement utilized by musical theatre productions.

1011 (1 hour)

Vocal Coaching

One-on-one studio sessions with coach accompanist to assist in mastering material studied in studio voice lessons. Emphasis is placed on effective learning, practice and rehearsal techniques for the student to apply to vocal study.

1013 (3 hours)

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.

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.

1053 (3 hours)

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)

The Broadway Musical

An introduction to American musical theatre and the creative process in the classroom and within cultural theatre environment. Historical, musical, and literary aspects are explored with an emphasis on structure and creative process of making a musical.

1161 (1 hour)

Musical Theatre Workshop I

An introductory level workshop to enhance the music theatre student's ability to integrate acting, singing, and dancing through a range of performance materials. Emphasis is placed on ensemble performance skills

1223 (3 hours)

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.

1233 (3 hours)

Theatre: Building a Character

Experiential investigation of the choices implicit in bringing a dramatic character to life on the stage. Beginning with analysis of the primary text, the play, students learn to develop a character through creative research, improvisation, and scene work.

1243 (3 hours)

Costumes through the Ages

Explores the cultural relevancy of clothing as chosen by the members of various societies, from Egypt through the 19th century.

2033 (3 hours)

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.

2043 (3 hours)

Theatre as Tribunal

The origin, procedures, and essential narrative of courtroom trial and drama from the 6th-century B.C. to the present through detailed reading, analysis, and enactment of several plays.

2093 (3 hours)

The Art of Acting

Acting designed for the non-major. Basic theory, monologue, and scene work.

2133 (3 hours)

Creative Drama

Using theories of American and British drama

practitioners, this course 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.

2142

Musicianship for Theatre I

Introduces the language of music and basic musical vocabulary, including basic pitch notation, rhythm and meter, major and minor scales, intervals, triads, and functional harmony. Students also develop the ability to read and perform music accurately, write music clearly, perceive music aurally, and deepen their understanding of musical structure and form.

2152

Musicianship for Theatre II

Continuation of Thea 2142, Musicianship for Theatre I, with emphasis on mastery of musical vocabulary, writing and reading musical notations, understanding musical style in listening to and performing music, and synthesis of all of these skills through music composition.

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.

***2203 (3 hours)**

Voice and Movement for the Stage I

Theories of voice and body movement in performance. Includes work on vocal support and placement by freeing and neutralizing poor vocal and physical habits, establishing a warm-up regimen, gaining control over the elements of movement analysis, and exploring self-analysis and imagination as foundations of character development. Prerequisite: Thea 2333.

2213 (3 hours)

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)*Survey of Dramatic Literature**

Critical approaches to representative plays from the classical, modern, and contemporary periods of Western dramatic literature.

2333 (3 hours)*Acting**

Training in theory and technique of acting leading to realistic characterization. Focus on developing concentration, observation, analytical skill, and on delineating motivation and actions of character in improvisation and scene work. Admission by audition and permission of instructor.

2342 (2 hours)*Costumecraft**

Hands-on experience in the creation of costumes and related elements for theatrical productions. Training in patterning, hand and machine sewing, fabric dyeing, painting, and the creation of costume accessories.

2352 (2 hours)*Stagecraft**

Hands-on experience in scenic construction techniques and lighting technology, introduction to theories and basic principles of scenic and lighting design.

2633 (3 hours)**Contemporary Plays for Stage and Screen**

Focusing on a range of styles, approaches, and genres, this course investigates in-depth the likenesses and differences between writing for stage and screen. Themes such as "representations of American life and culture," or "plays and screenplays that look at the art of theatre and film" are examined.

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 2011 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, playwriting, acting), culture, and literature of these periods.

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 I**

An introduction to 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.

3093 (3 hours)*Rendering Techniques**

Development of techniques for rendering stage designs: costumes, sets, lights. Various media (e.g., watercolor, acrylic markers) and various sketching and drawing techniques are used. Emphasis on projects and their presentation.

3101(1 hour)*Modern Dance**

Basic technique class in modern dance. Exploring ensemble and improvisational movement.

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 2352, or permission of the instructor.

3143 (3 hours)

Screenwriting

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.

3161 (1 hour)

Musical Theatre Workshop II

Continuation of work begun in Musical Theatre Workshop I with emphasis on integrating singing, dancing and acting skills with more stylistically advance material. Emphasis on solo and small ensemble technique.

***3203 (3 hours)**

Voice and Movement for the Stage II

Further development of work begun in Thea 2203. Emphasis on improving the acting instrument through the application of detailed text analysis, creation of movement abstracts, and in-depth vocal analysis as a basis for character movement and vocal choices. Prerequisite: Thea 2203 or permission of instructor.

***3343 (3 hours)**

Advanced Acting: Scene Study

Advanced level scene work with emphasis on the creation of contrasting characters in significant Western drama. Development of rehearsal techniques to realize the physical, emotional, and historical life of the character in performance, and presentation of the character in scenes, monologues, and detailed written analysis. Prerequisite: Thea 2333.

***3363 (3 hours)**

Musical Theatre Performance I

Acting theory and practice as applied to the musical theatre. Includes sections on acting the song, musical scene study, and musical auditions. American musicals, from early 20th-century Irving Berlin to Stephen Sondheim. Prerequisite: Thea 2333 or permission of instructor.

***3463 (3 hours)**

Musical Theatre History

The development of musical theatre as an art form and its significance as a major American genre. Includes examination of musical scripts

and scores, as well as librettists, lyricists, and composers and their significant productions.

***3473 (3 hours)**

Musical Theatre Literature

In-depth examination of musical theatre scripts, scores, and productions and their significance to the culture of the period and to the present time. Attention to works by women, minority, and alternative composers, librettists, and lyricists.

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 2352, 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 study of historical periods used in theatrical production. Prerequisite: Thea 2342, or permission of instructor.

***3543 (3 hours)**

Stage Makeup and Masks

Design, theory, and execution of character through makeup and mask. The student analyzes the physical requirements of character, gains proficiency in makeup analysis and application, and designs and executes masks for non-realistic characters.

4003 (3 hours)

Playwriting II

Examination of playwriting styles and methods of the latter half of the 20th century, with emphasis on non-naturalistic theatre. 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.

***4101 (1 hour)**

Tap Dance

Concentration on solo and ensemble work in tap dance.

4203 (3 hours)

Audition Techniques

Capstone course in performance sequence to

prepare theatre and musical theatre students for regional/professional auditions. Includes resume preparation and analysis of professional affiliations and the job market. Presentation of cold readings, monologues, and songs in regional and/or professional auditions. Prerequisite: Thea 2333.

***4333 (3 hours)**

Directing

Mastering structural analysis of a play, and learning to communicate effectively with actors and designers concerning directorial interpretations. Prerequisite: Thea 2333, or permission of instructor.

***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 research, period style of classical texts, and non-traditional acting exercises. Prerequisite: Thea 2333 or permission of instructor.

4363 (3 hours)

Scene Painting

Studio introduction to techniques and application of processes used in theatrical scene painting. Lab fee for materials, brushes, and paint. Prerequisite: Thea 2352 or permission of instructor.

***4373 (3 hours)**

Musical Theatre Performance II

Further development of work begun in Thea 3363 (Musical Theatre Performance). Emphasis on complete role preparation and advanced performance skills. Public performance as culmination of study. Prerequisite: Thea 3363.

4413 (3 hours)

Contemporary Theatre

Theatre and drama from 1950 to the present. Focuses on most recent trends in theatrical production, performance, playwriting and theory.

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. Permission of instructor.

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 1123, 2062, 3523, and 3103 or 3533. Permission of the instructor

4533 (3 hours)

Advanced Costume Design

Explores and employs the elements and principles of costume design in relation to the design process used in the theatre. Includes study of historical periods and rendering/communication techniques. Prerequisites: Thea 3533.

4563 (3 hours)

Special Topics in Theatre

Upper level work in an area of specialized study not available in the regular curriculum (e.g., choreography, voice laboratory, acting in Chekhov, draping and patterning).

4992-3 (1 to 3 hours)

Special Projects in Theatre

Assigned projects requiring sophisticated skills (e.g., directing or designing a university production, playwriting, one-person performance). Requires approval by appropriate Theatre faculty. Limit of 3 hours counted toward graduation.

*Musical Theatre and Theatre majors and minors will have priority placement in these classes.

Although the performance student is encouraged to take dance every semester, only two hours will count toward a degree in theatre.

Certificate Programs

The 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: African American studies, classics, international studies, journalism studies, legal thought, museum studies, Native American studies, political philosophy, visual communication, and women's studies.

Certificate in African American Studies

Director

Teresa Shelton Reed
Assistant Professor of Music

Advisory Board

Amy Carreiro, History
Susan Chase, Sociology
Robert Sanborn, Vice President for Enrollment and
Student Services
Gordon Taylor, English

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, nine of which must be at or above the 3000 level. Approved courses are listed each semester in the Schedule of Classes, and students should select courses that satisfy the following requirements:

Core Course (mandatory for all students):

- Hist 2513, African American History Since 1877.....3
or
- Hist 3583, American Civil Rights Movement3
or
- Engl 2083, African American Autobiography.....3

Literature and the Arts

Select from approved courses in African American literature, theatre, and music....3 or 6

Social Inquiry

Select from approved courses that treat sociological and anthropological aspects of African American life..... 6

History

Select from approved courses that treat various aspects of the history of blacks in America.3 or 6

Note: Freshman and senior seminars on African American subject matter may also receive credit toward the certificate, pending the approval of the director and the advisory board.

Certificate in Classics

Director

D. Thomas Benediktson
Professor of Classics and Comparative
Literature

Advisory Board

David Cook, Theatre
Jacob Howland, Philosophy
Joseph Kestner, English
Thomas Martin, Art
Paul Rahe, History
Brandon Scott, Phillips Graduate Seminary
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 Latin or Greek and to employ this knowledge in the study of the ancient world. 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.

Course Requirements

Fourteen hours of lower-division Greek or Latin or equivalent, six hours of upper-level Greek or Latin, and 12 additional hours of approved course work.

Required

Six hours of Greek or Latin at 3000 or 4000 level. (Prerequisite: 14 hours of lower-level Greek or Latin, which may include New Testament Greek at Phillips Graduate Seminary).

Grk 3003, Attic Prose.....3
Grk 3013, Attic Prose.....3
Grk 3103, Homer.....3
Grk 3203, Tragedy.....3
Grk 4003, Senior Reading Course.....3
Grk 4013, Senior Greek Seminar.....3
Lat 3023-3033, Advanced Latin Texts.....3
Lat 3683, Advanced Latin Grammar and Composition..... 3
Lat 3991-3, Independent Study.....1-3
Lat 4991-3, Independent Study.....1-3

Electives

12 hours, nine must be at the 3000 or 4000 level. Courses are to be selected in consultation with the classics advisor; courses other than those listed may be added for selection.

Art 3113, Greek and Roman Art.....	3
CpLt 2013, Comparative Mythology.....	3
Hist 2173, The Origins of War.....	3
Hist 2313, Ideas and Institutions in the Ancient World.....	3
Hist 2323, The Ancient City.....	3
Hist 3313, Crises of Greek Civilization	3
Hist 3353, Imperial Rome.....	3
Hist 4033, Thucydides and the Peloponnesian War.....	3
Hist 4803, Topics in Greek History.....	3
Hist 4813, Topics in Roman History.....	3
Phil 1083, Intellectual Evolution of Western Civilization I.....	3
Phil/Pol 2083, Western Political Thought I	3
Phil 3043, Ancient Philosophy.....	3
Phil 4143, Studies in Plato and Aristotle.....	3
Thea 3023, Theatre History and Literature: The Classical Theatre	3
WS 1013, Women in Antiquity.....	3

Certificate in International Studies

Director

Kalpana Misra
Associate Professor of Political
Science

Advisory Board

Christopher Anderson, Languages
Thomas Buckley, History
Thomas Buoye, History
Robert Donaldson, Political Science
Pam Finnegan, Languages
Michael Mosher, Political Science
Tod Sloan, Psychology

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

Must take nine credits from three different disciplines.

Anth 2043, Patterns in Culture.....	3
Anth 3173, Gender Across Cultures.....	3
Com 3743, Communication Among Cultural Groups.....	3
Econ 2043, Comparative Economic Development.....	3
Econ 2063, Global Political Economy.....	3
Hist 2733, Imperialism.....	3
Pol 3113, Comparative Foreign Policy.....	3

Area Emphasis

Must take 12 credits, at least nine upper level, and no more than six in any single discipline.

Option I - Europe

Econ 3083, International Economics.....	3
Engl 3483, 20th-Century British Literature.....	3
Fr 3613, Amiens et Picardie en France.....	3
Fr 3623, French Language in Amiens	3
Fr 3693, Cinema et Culture.....	3
Fr 4123, Topics in Literary and Cultural Studies of France.....	3
Hist 2403, Modern Western Civilization.....	3
Hist 2603, Russia and the West.....	3
Hist 2663, Russia Today	3
Hist 3463, 19th-Century Europe.....	3
Hist 3473, Democracy and Dictatorship in 20th-Century Europe.....	3
Hist 4413, Emergence of Modern Russia.....	3
Hist 4423, Russia: Reform and Revolution.....	3
Hist 4443, Soviet Russia.....	3
Pol 2023, European Politics.....	3
Pol 2033, International Relations in a Changing World.....	3
Pol 4023, Russian Foreign Policy.....	3
Pol 4053, Politics and the Culture of Russia	3
Soc 4973, Global Environmental Problems.....	3

Option II - Asia/Africa

Anth 2043, Patterns in Culture: Cultural Anthropology.....	3
Anth 3443, Magic, Witchcraft, and Religion.....	3
Econ 2043, Comparative Economic Development.....	3
Econ 3083, International Economics.....	3
Hist 2613, China and Japan from Antiquity to 1800.....	3
Hist 2623, China and Japan Since 1800.....	3
Hist 3663, Reform and Revolution in Modern China.....	3
Hist 4673, Modern Japan 1800 to Present.....	3
Pol 2033, International Relations in a Changing World.....	3
Pol 2043, Politics and Culture of China.....	3
Pol 2113, Politics of Developing Nations.....	3
Pol 3353, Politics and Culture of Japan.....	3

Pol 4503, Feminist Movements in Asia.....3
 Soc 4973, Global Environmental Problems.....3

Option III - Latin America/Caribbean

Anth 2043, Patterns in Culture: Cultural Anthropology.....3
 Anth 3443, Magic, Witchcraft and Religion.....3
 Com 2623, Communicating Across Cultures.....3
 Econ 2043, Comparative Economic Development.....3
 Econ 2063, Global Political Economy.....3
 Econ 3083, International Economics.....3
 Hist 2213, Latin America..... 3
 Hist 3243, History of the Caribbean.....3
 Hist 3253, Colonial Latin America3
 Hist 3263, Modern Latin America.....3
 Hist 2643, Colonial Latin America.....3
 Hist 4243, Spain in North America3
 Hist 4573, American Diplomatic History Since 1914.....3
 Lang 2043, Study Abroad in Mexico3
 Pol 2033, International Relations in a Changing World.....3
 Pol 3163, 20th-Century Revolutions.....3
 Pol 4503, Topics in International Studies.....3
 Psy 4991, Fieldwork in International Studies..... 1
 Soc 4973, Global Environmental Problems.....3
 Span 3023, Latin American Cultures.....3
 Span 3033, Explication of Hispanic Literary Texts.....3
 Span 4083, The Novel in Latin America.....3
 Span 4093, Short Story of Latin America3
 Span 4983, Seminar in Latin American Literature 3

Certificate in Journalism Studies

Director

John Coward
 Associate Professor of 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. This certificate is not designed for students already majoring in communication.

Certificate Requirements

Students are required to complete 21 credit hours to be chosen from an approved list of courses, some of which satisfy general curriculum requirements. Elective courses are to be chosen from a minimum of three academic departments. Under special circumstances, the program

directors can approve the substitution of one unlisted elective relevant to a student's individual requirements.

Required Courses (12 hours)

- Com 2123, Mass Communication and Society
- Com 3413, Newsgathering
- Com 3523, Editing for Print Media

and one of the following methods courses:

- Com 3113, Inquiry in Communication
- Soc 4123, Qualitative Methods of Sociological Research
- Soc 2023, Statistics

Electives (12 hours)

- Art 2153, Photography
- Bus 2013, Legal Environment of Business
- Com 3353, Political Communication
- Com 3493, Feature Writing
- Com 3573, Video Production: Location
- Com 3873, History of Free Expression
- Com 3943, Interviewers & Interviewing
- Econ 2063, Global Political Economy
- Mktg 3003, Principles of Marketing
- Pol 3133, Contemporary Political Thought
- Soc 3013, Political Sociology

For more information, consult the Arts and Sciences Advising Office or send e-mail to John Coward, certificate director, john-coward@utulsa.edu

Certificate in Legal Thought

Directors

Jeffrey Hockett
Associate Professor of Political Science

Barry Kinsey
Professor of Sociology

Advisory Board

John Coward, Communication
Eldon Eisenach, Political Science

The certificate program in legal thought is intended for students who are interested in the study of law and legal institutions and their relationships to philosophy, politics, economics, and the social problems of crime and delinquency.

Certificate Requirements

Students must complete 21 hours of course work approved by one of the directors. Internships may substitute for one course.

Required Courses (9 hours)

Pol/Phil 2073, Law and Society.....	3
Soc 2123, Crime, Justice, and Social Order.....	3
Pol 3463, Constitutional Law, or	
Pol 3343, Civil Liberties.....	3

Electives (12 hours, nine of which must be at the 3000-4000 level)

Acct 2013, Introduction to Financial Accounting	3
Bus 2013, Legal Environment of Business.....	3
Com 3873, History and Philosophy of Free Expression	3
Econ 2013, Macroeconomics.....	3
Econ 2023, Microeconomics.....	3
Econ 3033, Microeconomic Theory	3
Engl 4843, Law and Literature.....	3
Hist 4543, American Constitutional History to 1877.....	3
Hist 4563, American Legal Theory	3
Phil 1023, Issues in Biomedical Ethics.....	3
Phil 1063, Ethics and the Problems of Society.....	3
Phil 2013, Reasoning	3
Phil 3193, Philosophy, Politics, and Economics	3
Phil 3973, Philosophy of Natural Law and Natural Rights	3
Phil 4063, Philosophy of Law.....	3
Pol 2083, Western Political Thought I.....	3
Pol 2093, Western Political Thought II.....	3
Pol 3023, Politics of the Judicial System.....	3
Pol 3043, American Political Thought.....	3
Pol 3343, Civil Liberties in the United States.....	3
Pol 3463, Constitutional Law.....	3
Psy 3033, Abnormal Psychology.....	3
Psy 3083, Clinical Psychology and Behavioral Change.....	3
Psy 4163, Psychology and Social Change.....	3
Soc 2043, Juvenile Delinquency.....	3
Soc 3093, Sociology of Poverty.....	3
Soc 3863, Criminal Law Process.....	3
Soc 4013, Sociology of Law.....	3

Certificate in Museum Studies

Coordinator

Thomas Martin, Associate Professor
of Art History

Advisory Board

Diana Aaronson, Fenster Museum
Christine Fosano, Philbrook Museum
Lamont Lindstrom, Anthropology
Ann Morand, Gilcrease Museum
Dan Swan, Gilcrease Museum

The certificate program in museum studies is designed for individuals who wish to enhance their knowledge of, or to prepare for careers in, museum work. The program serves traditional and non-traditional students who are pursuing a degree at TU or those who wish to specialize in museum studies within an existing degree.

Certificate Requirements

Students are required to take 21 hours to be chosen from an approved list of courses, many of which satisfy general curriculum requirements. Courses are to be chosen from a minimum of three academic departments and are to include a minimum of 15 hours at the 3000 to 4000 level.

Required Courses (9 hours)

Art 3083, Introduction to Museum Studies	3
Anth 4083, Museology.....	3
Com 3913, Introduction to Organizational Communication.....	3

And one of the following internships for at least 3 and no more than 6 credit hours:

Art 4902-6, Internship.....	2-6
Anth 4113-6, Summer Fieldschool in Archaeology.....	3-6
Anth 4213-6, Independent Study.....	1-3
Hist 4991-3, Independent Study.....	1-3

Electives (6 or 9 additional hours)

Acct 2113, Concepts in Accounting Information	3
Anth 2043, Patterns of Culture: Cultural Anthropology	3
Anth 3103, North American Indians.....	3
Anth 3253, New World Prehistory.....	3
Anth 4403, Ethnohistory.....	3
Anth 7203, Ceramic Analysis.....	3
Anth 7213, Analysis of Lithic Artifacts.....	3
Art 3243, Graphic Communication.....	3
ArtH 1203, Introduction to Visual Arts.....	3
ArtH 2033, Native American Art.....	3
ArtH 3093, American Art.....	3
ArtH 4613, 19th-Century European Art.....	3
ArtH 4623, 20th-Century Art.....	3
Com 2123, Mass Communication and Society.....	3

Com 3473, Video Production I or	
Com 3573, Video Production II.....	3
Com 3483, Principles of Visual Communication.....	3
Com 3633, Writing for Public Relations.....	3
Com 4943, Analysis of Communication in Organizations.....	3
CS 1013, Fundamental Principles of Computing.....	3
Econ 2013, Macroeconomics.....	3
Econ 2023, Microeconomics.....	3
Hist 2213, Latin America.....	3
Hist 2523, History of Oklahoma.....	3
Hist 2573, Indians in American History.....	3
Hist 3253, Colonial Latin America	3
Hist 4243, Spain in America.....	3
Hist 4533, The Old West	3
Mgt 3003, Organization and Management.....	3

Certificate in Native American Studies

Director

Garrick Bailey
Professor of Anthropology

Advisory Board

Richard Grounds, Anthropology
Peggy Hill, Biology
James Ronda, History

The certificate in Native American studies is designed for students with a variety of interests in Native Americans and their cultures. Indian students from traditional families who might feel culturally isolated while in college, or non-Native American students planning careers that might take them into geographic areas of high native density, will benefit from this program. Native American descendants who do not have a strong tribal affiliation may wish to increase their knowledge of their heritage. Students who wish to complete the certificate must either have a baccalaureate degree from an accredited institution or be enrolled in an undergraduate degree program at The University of Tulsa.

Certificate Requirements

Students must complete 18 hours of approved course work.

Required Courses (9 hours)

Anth 3103, North American Indians.....	3
Hist 2573, Indians in American History.....	3
Rel 4973, Native Americans and Christianity.....	3

Nine additional credit hours subject to approval of the program director are required.

Electives (a minimum of 9 hours)

Anth 2022, Native American Art	3
Anth 4623, Indians of the Plains.....	3

Anth 4673, Ethnohistory of the Northeast.....	3
Chrk 1004, Beginning Cherokee I.....	4
Com 2723, Native Americans and the Popular Imagination.....	3
Soc 4703, Sociology of Religion.....	3

Alternative Electives (choose only one)

Chrk 1014, Beginning Cherokee II.....	4
Com 2623, Communicating Across Cultures.....	3
Hist 2133, Images of the American West.....	3
Hist 4533, American Frontier.....	3
Soc 2133, Inequality in Modern Society	3

Certificate in Political Philosophy

Director

Eldon Eisenach
Professor of Political Science

Advisory Board

John Bowlin, Religion
Nicholas Capaldi, Philosophy
Lars Engle, English
Russell Hittinger, Religion
Thomas Horne, Political Science
Jacob Howland, Philosophy
Michael Mosher, Political Science
Paul Rahe, History
Mary Lee Townsend, History

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 [or Hon 1003], Western Political Thought I.....	3
Pol/Phil 2093 [or Hon 1013], Western Political Thought II	3

Electives (15 additional hours)

Engl 4543, Shakespeare.....	3
Hist 2323, The Ancient City.....	3
Hist 2373, Ideas in the Middle Ages	3
Hist 2423, The History of Ideas in Modern Europe	3
Hist 4033, Seminar in the History of Political Thought	3
Hist/Phil 4453, Hegel, Marx and Nietzsche	3

Hist 4843, Topics in European History	3
Phil 3143, Equality and the Social Order.....	3
Phil 3193, Philosophy, Politics, and Economics	3
Phil 3793, Philosophy of Natural Law and Natural Rights	3
Phil/Hist 4453, Hegel, Marx, and Nietzsche	3
Phil 4143, Studies in Plato and Aristotle.....	3
Pol 3043, American Political Thought.....	3
Pol 3133, Contemporary Political Thought.....	3
Pol 3143, Liberalism and Democracy.....	3
Pol 3173, Conservative Critics of Mass Society	3
Pol 4033, Seminar in the History of Political Thought.....	3
Rel 3263, Religion and Morality from Kant to Nietzsche.....	3
Rel 4203, Resistance, Rebellion, and Death.....	3
Rel 4213, Virtue and Vice in the Ethics of St. Thomas Aquinas.....	3
Soc 4193, Foundations of Social Theory.....	3

Certificate in Visual Studies

Director

David Moncrief
Applied Associate Professor
of Communication

Advisory Board

David Cook, Theatre
Stephen Sumner, Art
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 to be chosen from an approved list of courses, some of which satisfy general curriculum requirements. Courses are to be chosen from a minimum of three academic departments and are to 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	3
Art 3243, Graphic Communication I.....	3
Com 3483, Principles of Visual Communication.....	3

Electives (12 hours)

Art 2153, Photography I.....	3
Art 3253, Graphic Communication II.....	3
Art 3263, Computer Graphics.....	3
Art 3273, Typography and Graphic Production.....	3
Art 3343, Illustration: Photoshop	3
Art 4152, Photography Studio.....	2
Com 2023, Documentary Expression in Film and Video.....	3
Com 3473, Video Production I: Studio	3
Com 3573, Video Production II: On Location.....	3
Com 4863, Web Design.....	3
CpLt 2043, Back to the Present: Part I, American Culture on Film	3
Engl 3053, Literature and Film.....	3
Phil 3153, Seeing and Believing.....	3
Phil 4053, Aesthetics.....	3
Thea 3523, Scene Design: Background and Practice	3
Thea 4333, Directing.....	3

Certificate in Women's Studies**Governing Board**

Donna Farrior
Applied Assistant Professor of Mathematics

Kathleen Waits
Associate Professor of Law

Holly Laird
Professor of English

P.C. Smith
Vice Provost for Academic Affairs

Kalpana Misra
Associate Professor of Political Science

Charlotte Stewart
Executive Assistant to the Provost, Coordinator

Elana Newman
Assistant Professor of Psychology

The certificate program in women's studies offers interdisciplinary and cross-cultural courses that examine women's lives, experiences, and works as well as gender relations, including masculinity studies. Students enrolled in an undergraduate degree program at The University of Tulsa are eligible to complete certificate programs, as well as students who already hold a bachelor's degree from an accredited institution.

Certificate Requirements

Students must complete 18 hours of approved course work. Courses from at least two disciplines in the College of Arts and Sciences must be included in the study program. First Seminars count toward the certificate but will not count as courses in a discipline. Students should see the Schedule of Classes for approved women's studies courses each semester or ask a member of the Women's Studies Governing Board for a current list.

Required Course (3 hours)

WS 2013, Introduction to Women's 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.

Electives (15 hours)

Courses from at least two disciplines must be included in the elective credits, and six hours must be at or above the 3000 level. In addition to the following three courses in women's studies, approved courses are regularly taught in the following disciplines: anthropology, communication, comparative literature, English, exercise and sports science, German, history, languages, law, management, music, political science, psychology, sociology, Spanish, and theatre. See the Schedule of Classes published each semester for approved women's studies courses.

WS 1013

Women in Antiquity (3 hours)

The role of women in the Greco-Roman world, including attitudes toward women and women's participation in or exclusion from institutions. Public and private lives of women are reconstructed from ancient speeches, inscriptions and artifacts. Implications for the modern world are considered.

WS 2263

Sexualities: An Introduction (3 hours)

Introduces studies of sexuality in the 20th century—historical, literary, medical, sociological, psychoanalytic, psychological, anthropological, ethnographic, legal, and popular cultural. Investigates how concepts of sexual and gender

categories and identities have developed over time and across cultures and ethnicities, and considers how these categories may be represented, critiqued, and transformed.

WS 4013

Women and the Law (3 hours)

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.

The College of Business Administration

Mission

The mission of The University of Tulsa College of Business Administration is to educate, mentor, and empower students to become accomplished business and health care professionals and lifelong learners in a dynamic and complex world; to create a learning environment that fosters scholarly efforts by both faculty and students; to advance the professions through the creation and dissemination of new knowledge; and to enhance student learning through effective and innovative methods of teaching.

Our academic programs instill:

- a forward-looking perspective,
- an entrepreneurial spirit,
- critical and analytical thinking skills,
- effective communication skills,
- skills for effective employment of technology,
- a global perspective,
- development of leadership skills, and
- a strong sense of social responsibility

Accreditation

College programs are accredited. The Business Administration program is fully accredited by the International Association for Management Education (AACSB) and is one of a few select programs nationally that has been accredited at both the graduate and undergraduate levels. The Nursing program is approved by the Oklahoma Board of Nursing and is accredited by the National League of Nursing. The Athletic Training program is accredited by the Committee for the Accreditation of Allied Health Education Programs (CAAHEP).

Academic Programs

Academic programs available through the College of Business Administration include five undergraduate degrees, five master's degrees, three certificate programs, and a joint undergraduate/graduate program that allows students from any discipline to earn both a bachelor's degree and a master of business administration with one additional year of study.

Undergraduate Business Programs

Bachelor of Science in Business Administration

Major areas of concentration available: Accounting, Finance, Management, Management Information Systems, and Marketing.

Bachelor of Science in International Business and Language

Language concentrations available: French, German, and Spanish.

Five Year Bachelor/Master of Business Administration

Minor areas of concentration available: Accounting, Business Administration, Finance, International Business Studies, Management Information Systems, and Marketing Communication.

Undergraduate Healthcare Programs

Bachelor of Science in Athletic Training
Bachelor of Science in Exercise and Sports Science
Bachelor of Science in Nursing

Graduate Business Programs

Master of Business Administration
Master of Engineering and Technology Management
Master of Management Information Systems and Accounting
Master of Taxation
Master of Science in Finance

Details regarding graduate programs can be obtained from the Office of Graduate Business Programs, the 2000-2002 Graduate Bulletin, or the College website at www.cba.utulsa.edu.

Business Minor Programs

Accounting
Business Administration
Finance
International Business Studies
Management Information Systems
Marketing Communication

Healthcare Minor Program

Coaching

Certificate Programs

Accounting
Finance
Management Information Systems

Honors Program

The College of Business Administration invites graduating high school seniors with exceptional academic records and a spirit of intellectual curiosity to consider the University's Honors Program. Each student in the Honors Program completes a core of four courses and nine credit hours of directed research that culminates in a senior thesis. The four courses in the Honors Program core are credited to the student's general curriculum requirement. The student's directed research is applied either as elective or Area of Concentration 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.

Information Technology Center

State-of-the-art technologies are available in the College of Business Administration's Information Technology Center (ITC) for the use of students to enhance their education with hands-on experience. The Information Technology Center is equipped with the latest hardware as well as many specialized tools and databases. The center has extended hours includ-

ing weekends and is always staffed with trained assistants. Learning from each other through the ITC, students and faculty have access to information technology resources that open a new era of active learning.

Internship Program

Student internships are working programs jointly planned and administered by faculty of the College of Business Administration 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, students should consult their faculty advisors by the end of the sophomore year. Career Services may assist with opportunities for internships.

Pre-Law and Business 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. No specific undergraduate major is required or recommended. Elective courses are available in business law and human resources.

Study Abroad

Both study abroad and international internships provide exceptional opportunities for students to acquire the necessary tools to compete in an increasingly global marketplace. Programs of study are available worldwide through university-sponsored programs and through participation in such foreign study institutes as the Institute of European and Asian Studies, the American Institute for Foreign Study, and the Council on International Education Exchange.

Although the nature and location of these experiences vary greatly, they consistently provide exciting opportunities to gain hands-on experience in organizational and personal dynamics outside the United States. Some courses provide opportunities during an academic semester to visit business operations in other countries. These courses meet as regular semester courses but also offer an international visit as part of the course. Other programs provide for semester abroad study opportunities. Additional information is available from the university's Study Abroad Office.

Undergraduate Business Programs

Bachelor of Science Program in Business Administration

Business professionals need a broad theoretical and practical education that prepares them for continuous learning and effective leadership. The business administration curriculum combines a broad general education and a strong business foundation with a concentration 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 is devoted to the Tulsa Curriculum and introductory business core courses. The junior year includes the business core, while the senior year provides an opportunity to concentrate in a particular business discipline.

Transfer Policies

The College of Business Administration's transfer policies for the B.S.B.A. are as follows:

- 1) At least 50 percent (50%) of the business credit hours (other than economics) required for the business degree must be completed at The University of Tulsa.
- 2) Credits earned at an AACSB accredited program, while a student is not enrolled at The University of Tulsa for one non-summer semester or more, may be transferred provided the credits are consistent with other transfer policies of the college and university.
- 3) No transfer credit will be accepted toward the Business Core or Business Major subsequent to enrollment at The University of Tulsa with the following exception: a maximum of six hours taken during the summer term may be transferred from an AACSB accredited program.

Academic Policies

- 1) A student in the B.S.B.A. program may take a maximum of 30 hours general or free electives on a pass-fail basis.
- 2) Credit by examination will be acceptable toward the degree, including CLEP, Advanced Placement, International Baccalaureate, and proficiency examinations consistent with University policy, except business core courses (other than economics).

Students may take a maximum of 30 hours of course credits in one discipline that may be applied toward B.S.B.A. degree requirements. All B.S.B.A. students must complete 48 hours of credit from 3000- and 4000-level courses in order to qualify for graduation. Students enrolled in junior- and senior-level (3000-4000) business courses are expected to have achieved junior standing and completed the following: Engl 1033; Acct 2113, 2123; Econ 2013, 2023; Math 1093, 1103; Bus 1013; MIS 1123; and QM 2013, 2023. 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 course work must be completed outside the College of Business Administration. Up to 6 hours of statistics and 9 hours of economics may be included in the hours outside of business to meet the 50% requirement.

B.S. in Business Administration (B.S.B.A.)

Requirements for the Bachelor of Science in Business Administration degree include successful completion of 124 hours of course work 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 (20 hours)

Writing: Engl 1033, Exposition and Argumentation, and Engl 3003, Writing for the Professions

Mathematics: Math 1093, Mathematics with Applications, and Math 1103, Business 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 and 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 College of Business Administration may be used for general education electives.

III. Business Core (40 hours)

Business majors must earn a grade of C or better in each of the business core courses (except Bus 1001) in order to meet requirements for graduation.

A. Freshman Core

Bus 1001, Business Orientation (pass/fail)

Bus 1013, Business in Society

MIS 1123, Business Information Technology

B. Sophomore Core

Bus 2013, Legal Environment of Business

QM 2013, Statistics I

QM 2023, Statistics II

Acct 2113, Concepts of Accounting Information I

Acct 2123, Concepts of Accounting Information II

Econ 2013, Macroeconomics

Econ 2023, Microeconomics

C. Junior/Senior Level Core

Fin 3003, Business Finance

Mktg 3003, Principles of Marketing

QM 3023, Operations Management

Mgt 3003, Organization and Management

MIS 3003, Management Information Systems

Mgt 4073, Strategic Management

IV. Major Concentration Required Courses (18-24 hours)

(see description of specific major)

V. Free Electives (3-9 hours depending on specific majors)

Suggested Sequence of Study

Students are admitted to the College of Business Administration as freshmen and are encouraged to explore and study all the disciplinary areas 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 suggested sequence of courses.

Freshman

First Semester

Bus 1001, Business Orientation
 Engl 1033, Exposition and Argumentation
 Math 1093, Mathematics with Applications
 MIS 1123, Business Information
 Technology
 Foreign Language

Second Semester

Bus 1013, Business and Society
 Block II, Historical and Social
 Interpretation
 Math 1103, Business Calculus
 Block III, Scientific Investigation
 Foreign Language

Sophomore

First Semester

Acct 2113, Concepts of Accounting
 Information I
 QM 2013, Statistics I
 Block III, Scientific Investigation
 with Lab
 Econ 2013, Macroeconomics (Block II)
 Block I, Aesthetic Inquiry and
 Creative Experience

Second Semester

Acct 2123, Concepts of
 Accounting Information II
 Bus 2013, Legal Environment of
 Business
 QM 2023, Statistics II
 Block I, Aesthetic Inquiry
 and Creative Experience
 Econ 2023, Microeconomics (Block II)

Junior

First Semester

Fin 3003, Mktg 3003, QM 3023
 English 3003, Writing for the
 Professions
 Block II, Historical and Social
 Interpretation

Second Semester

Mgt 3003, MIS 3003
 Major course
 Major course
 Elective course

Senior

First Semester

Major course
 Major course
 Major course
 Elective course
 Elective course

Second Semester

Major course
 Elective course
 Elective course
 Major / Elective course
 Mgt 4073

Business (Bus)

1001 (1 hour)

CBA Orientation

Facilitates the transition to The University of Tulsa and introduces the College of Business Administration disciplines.

1013 (3 hours)

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.

2013 (3 hours)

Legal Environment of Business

Introduction to law and legal principles, including the basic principles of contracts, agency, and commercial papers.

3973 (3 hours)

Seminar in Business

A critical study of selected topics in business. Prerequisite: business core and junior standing or permission of instructor.

4973 (3 hours)

Seminar in Business

A critical study of selected topics in business. Prerequisite: Business Core and senior standing or permission of instructor.

School of Accounting

Director

Anita S. Hollander, Chapman Professor

Assistant Professor

Wray E. Bradley

Professor

Patrick A. Hennessee

Applied Assistant Professor

J. Michael McCrary

Associate Professors

Karen S. Cravens

Anita S. Hollander

Dennis H. Hudson

Stephen R. Rockwell

The primary mission of the School of Accounting is to provide educational programs that prepare students for the role of business information professionals with expertise in analysis, reporting, and translating complex information into critical 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 Concentration Requirements

Acct 3113, Accounting Processes and Problem-solving IA.....	3
Acct 3123, Accounting Processes and Problem-solving IB.....	3
Acct 3110, Accounting Processes and Problem-solving I Laboratory.....	0
Acct 3133, Accounting Processes and Problem-solving IIA.....	3
Acct 3143, Accounting Processes and Problem-solving IIB.....	3
Acct 3130, Accounting Processes and Problem-solving II Laboratory.....	0
Acct 4213, Financial Accounting Research Applications.....	3
Acct 4223, Internal Reporting Issues.....	3
Acct 4233, Topics in Federal Income Taxation.....	3
Acct 4243, Auditing Assurance for Accounting Systems	3
TOTAL HOURS.....	24

Accounting (Acct)

2113 (3 hours)

Concepts in Accounting Information I

The role of accounting information in business management and the core concepts of accounting. Emphasizes use of accounting information for economic decisions of managers, investors, capital markets, governmental and not-for-profit entities. Covers accounting information in the areas of financial and managerial accounting, taxation, and information systems and auditing. Prerequisite: MIS 1123 with a grade of C or better.

2123 (3 hours)

Concepts in Accounting Information II

Extends Accounting 2113, focusing on economic resources and capital. Broad perspective on accounting information including financial and management accounting issues, tax implications, information systems and auditing, with emphasis on integrating the uses of accounting information with economic decisions. Prerequisite: Acct 2113 with a grade of C or better.

3110 (0 hours)**Accounting Processes and Problem-solving I Laboratory**

Students further develop and apply concepts and skills learned in Acct 3113 and Acct 3123. This lab class meets once a week in a 2 3/4-hour block, usually from 6-8:45 p.m. Offered fall semester. Prerequisite: Acct 2123 with a grade of C or better. Corequisites: Acct 3113 and 3123.

3113 (3 hours)**Accounting Processes and Problem-solving IA**

Integrated study of financial, managerial, tax, information systems, and auditing perspectives used to support business processes. Generic business events of service, manufacturing, merchandising, and not-for-profit entities are analyzed. Themes include income, cash flows, economic resources, obligations and capital. The approach emphasizes student research, problem-solving, and critical thinking. Offered fall semester. Prerequisite: Acct 2123 with a grade of C or better. Corequisites: Acct 3123 and 3110.

3123 (3 hours)**Accounting Processes and Problem-solving IB**

Continuation of Acct 3113. An integrated study of several accounting perspectives in analyzing and reporting information. Generic business events of service, manufacturing, merchandising, and not-for-profit entities are analyzed. Themes include income, cash flows, economic resources, obligations and capital. The approach emphasizes student research, problem-solving, and critical thinking. Offered fall semester. Prerequisite: Acct 2123 with a grade of C or better. Corequisites: Acct 3113 and 3110.

3130 (0 hours)**Accounting Processes and Problem-solving II Laboratory**

Students further develop and apply concepts and skills learned in Acct 3133 and Acct 3143. This lab class meets once a week in a 2 3/4-hour block, usually from 6-8:45 p.m. Offered spring semester. Prerequisites: Acct 3113, 3123 and MIS 3003, each with a grade of C or better. Corequisites: Acct 3133 and 3143.

3133 (3 hours)**Accounting Processes and Problem-solving IIA**

Continuation of Acct 3113 and 3123. An integrated study of several accounting perspectives in analyzing and reporting information. Generic business events of service, manufacturing, merchandising, and not-for-profit entities are analyzed. Themes include income, cash flows, economic resources, obligations and capital. The approach emphasizes student research, problem-solving, and critical thinking. Offered spring semester. Prerequisites: Acct 3113, 3123, MIS 3003 each with a grade of C or better. Corequisites: Acct 3143 and 3130.

3143 (3 hours)**Accounting Processes and Problem-solving IIB**

Continuation of Acct 3113 and 3123. An integrated study of several accounting perspectives in analyzing and reporting information. Generic business events of service, manufacturing, merchandising, and not-for-profit entities are analyzed. Themes include income, cash flows, economic resources, obligations and capital. The approach emphasizes student research, problem-solving and critical thinking. Offered spring semester. Prerequisites: Acct 3113 and 3123, MIS 3003, each with a grade of C or better. Corequisites: Acct 3133 and 3130.

3153 (3 hours)**Analysis of Financial Statements**

The analysis and interpretation of financial reports, utilizing actual statements, problems, and cases, with emphasis on the analysis (as opposed to the construction) of financial statements. Typically offered spring semester.

4093 (3 hours)**Tax Planning and Research**

Research techniques and tools for solving complicated tax problems; emphasis on development of research skills and their application to tax planning. Analyzes factual cases to isolate critical facts and tax questions. Stresses knowledge of tax services and periodicals and basic sources of the tax law. Prerequisites: Acct 3133 and 3143 with a grade of C or better.

4213 (3 hours)

Financial Accounting Research Applications

Impact of technical considerations of business events on financial statements. Includes accounting theories that may conflict with one another and thereby lead to different conclusions in different circumstances. Inductive-deductive method of inquiry and empirical studies cast in a pragmatic framework. Offered spring semester. Prerequisites: Acct 3133 and 3143 with a grade of C or better.

4223 (3 hours)

Internal Reporting Issues

Conceptual and practical aspects of designing and using management information systems for planning, control, and decision-making in manufacturing, merchandising, service and not-for-profit organizations. Offered spring semester. Prerequisites: Acct 3133 and 3143 with a grade of C or better.

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 tax environment. Offered fall semester. Prerequisites: Acct 3133 and 3143 with a grade of C or better.

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, financial auditing and internal auditing issues. Offered fall semester. Prerequisites: Acct 3133 and 3143 with a grade of C or better.

4973 (3 hours)

Seminar in Accounting

In-depth study of selected topics in accounting. Prerequisite: As determined by course instructor.

4991-3 (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. Prerequisite: Permission of instructor and Director of the School of Accounting.

Finance and Operations Management

Chair

Roger P. Bey, Finance

Professors

Roger P. Bey, Finance

Richard C. Burgess, Finance

J. Markham Collins, Finance

Robert W. Lawless, Operations Management

Robert J. Monroe, Finance

Robert A. Russell, Operations Management

A. Gale Sullenberger, Operations Management

Timothy L. Urban, Operations Management

Associate Professors

Wen-Chyuan Chiang, Operations Management

Larry J. Johnson, Finance

Applied Assistant Professor

Richard P. Gebhart, Operations Management

The curriculum places major emphasis on three areas of finance: financial management, investments and portfolio management, and financial markets and institutions. The student can select a general program or may structure his or her program around one of these specific areas. 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 Concentration Requirements

Fin 3083, Investment Analysis and Portfolio Management I.....	3
Fin 3023, Financial Institutions and Markets I.....	3
Fin 4013, Long-Term Financial Decisions.....	3
Fin 4033, Risk Management.....	3
Acct 3153, Analysis of Financial Statements.....	3
Finance Electives (3000 or 4000 level).....	6
TOTAL HOURS.....	21

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.

2073 (3 hours)**International Finance**

Introduction to international business and finance considering the effects of foreign cul-

tures and institutions on production, marketing, and finance. Offered only as a study abroad course; 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, Acct 2113, 2123, Econ 2013, 2023, QM 2013 and 2023.

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.

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.

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.

4013 (3 hours)

Long-Term Financial Decisions

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. Prerequisite: Fin 3003.

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, arbitrageurs to profit on inefficient markets, and by speculators to profit

on predictions of price movements. Prerequisite: Fin 3023 and 3083.

4043 (3 hours)

Financial Institutions and Markets II

Continuation of Financial Institutions 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.

4083 (3 hours)

Investment Analysis and Portfolio Management II

Fixed-income securities, options, futures, and other derivatives including fixed-income portfolio management, interest rate swaps, and option pricing models. Fundamentals of futures markets, determination of futures prices, futures market strategies, index futures, foreign exchange futures, and swaps. Market timing, security selection, portfolio performance, hedging, international diversification, and management of pension funds. Prerequisite: Fin 3083.

4113 (3 hours)

Student Investment Fund I

Actual management of a financial asset portfolio. Students determine the investment style, asset allocation, selection of securities, and place the trades. Students are responsible for maintaining and updating all policies, procedures, accounting records, and a web site. Prerequisite: Fin 3083, and application form and instructors approval.

4123 (3 hours)

Student Investment Fund II

A continuation of Student Investment Fund I. Prerequisite: Fin 3083 and 4113.

4973 (3 hours)**Seminar in Finance**

A critical study of selected topics in finance. Prerequisite: Permission of instructor.

4991-3 (1-3 hours)**Independent Study**

Offered to advanced undergraduate students for individual study in a specialized field of interest. Students are required to prepare individually their programs of study and a formal report of their work. Prerequisite: Permission of instructor and department chair.

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: Math 1093, MIS 1123.

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.

3023 (3 hours)**Operations Management**

Introduction to effective management of manufacturing and service systems. Topics include

productivity, process and job design, capacity planning, distribution, aggregate production planning, inventory control, scheduling, quality assurance, and operations strategy. Corequisite: Mktg 3003, Fin 3003, Prerequisite: QM 2013 and 2023.

4083 (3 hours)**Advanced Operations Management**

Advanced topics in production/operations management including logistics systems, facility layout analysis, inventory control systems, JIT (just-in-time manufacturing), synchronized manufacturing, scheduling, and total quality control. Prerequisite: QM 3023.

4103 (3 hours)**Simulation**

Computer simulation models involving a special purpose simulation language such as SLAM. Students are required to design, run, and experiment with a variety of simulation models. Prerequisite: QM 3023.

4133 (3 hours)**Management Science**

Topics in management science/operations research, including decision analysis, network models, risk analysis, stochastic processes, multiple criteria decision-making, decision support systems, and some exposure to integer and dynamic programming. Prerequisite: QM 3023.

Management

Chair

Ralph W. Jackson

Professors

George S. Vozikis, Management

Associate Professors

Gary J. Castrogiovanni, Management

David W. Pan, Management

Arthur A. Rasher, Management

P.C. Smith, Management

Assistant Professors

David J. Glew, Management

Jill R. Hough, Management

Marc D. Street, Management

Applied Assistant Professor

Susan C. Boyd, Business Law Fellow

Business Law Adjunct

David Winslow, Business Law

The management major provides a basic understanding of issues in organizational behavior, negotiation skills, and managerial functions. Preparation is for either employment as a manager or graduate study. In addition to the general management major option, the student may choose among four specializations in management:

Management Concentration Requirements

Management Core (9 hours)

3063, Organizational Behavior	3
4023, Negotiation and Management Skills.....	3
4503, Internship in Management	3

Management electives selected in consultation with management department chair:

Management electives at the 3000-4000 level.....	9
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TOTAL HOURS.....	18
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Business Law: Specialization on the issues and practices, which aim at reducing the risks of operating in today’s litigious business climate.

Specialization Requirements

Management Core (9 hours)	9
3033, Employment Law.....	3
4013, Social Responsibility in Business.....	3
4033, Family-Owned Business Law.....	3

TOTAL HOURS.....	18
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Family Business Management: Study of the unique characteristics and issues of succession, conflict, leadership, and strategic management as they relate to the family business enterprise.

Specialization Requirements

Management Core (9 hours)	9
4033, Family-Owned Business Law.....	3
4053, Entrepreneurship.....	3
Management electives at 3000-4000 level.....	3

TOTAL HOURS.....	18
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Human Resource Management: Focuses on the effective and efficient attraction, selection and development of human resources as organizational assets.

Specialization Requirements

Management Core (9 hours)	9
3033, Employment Law.....	3
3103, Human Resource Management.....	3
Management electives at 3000-4000 level.....	3
TOTAL HOURS.....	18

Sports Management: Focuses on the administration, issues, practices, and functions facing sports-oriented organizations in collegiate and professional sports.

Specialization Requirements:

Management Core (9 hours)	9
2033, Principles of Sports Management.....	3
3043, Sports Marketing.....	3
4043, Sports Facilities & Operations Management.....	3
TOTAL HOURS.....	18

Management (Mgt)

2033 (3 hours)

Principles of Sports Management

Introduction to the major job of functions facing individuals working within sports-oriented organizations, including components and activities involved in sports administration, professional and collegiate sports.

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. Study of human behavior with emphasis on problems of motivation, leadership, authority relations and their interactions with structure to achieve effectiveness and efficiency in organizations. Prerequisite: Junior standing.

3033 (3 hours)

Employment Law

This course 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: Bus 2013, Mgt 3003.

3043 (3 hours)

Sports Marketing

Theories and practices in the sport industry. Topics include the nature of sport marketing, consumer behavior, research related to sports, and sport marketing strategy. Prerequisites: Mgt 2033, Mktg 3003 and junior standing.

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.

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.

3143 (3 hours)

International Management

Examines the unique issues involved with managing business organization 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.

4013 (3 hours)

Social Responsibility in Business

Examines the place of ethics and social responsibility in business decision-making. Focusing on the impact of ethical problems and dilemma on a firm's stakeholders. Prerequisites: Bus 2013, Mgt 3003, Mktg 3003.

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.

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.

4043 (3 hours)

Sports Facilities and Operations Management

Principles and practices in operating a sports facility and managing athletic events. Topics include planning, designing, renovating, programming, staffing, scheduling construction of a new facility, risk management, event management, and evaluation of sport and recreational facilities. Prerequisites: Mgt 2033, QM 3023.

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.

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 3003 and senior standing.

4113 (3 hours)

Family-Owned Business Law

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: Bus 2013, Mgt 3003 and junior standing.

4503 (3 hours)

Internship in Management

Combines work experience and academic experience in the area of specialization in human resource, family business, business law, sports, or general management. Prerequisites: Completion of business, management, and specialization core requirements and senior standing.

4973 (3 hours)

Seminar in Sports Management

A critical study of selected topics in sports administration or sports marketing. Prerequisite: Mgt 2033 and junior standing.

Marketing

Chair

Ralph W. Jackson

Associate Professor

Ralph W. Jackson

Professors

James W. Cagley

Lester A. Neidell

Saeed Samiee, International Marketing

Assistant Professor

Charles M. Wood

The curriculum provides a basic understanding of marketing structures and processes and develops the ability to analyze and deal with marketing problems. It prepares students for employment in marketing and sales departments of domestic and international corporations, in marketing research, in retailing and wholesaling firms, and in advertising agencies and departments.

Marketing Concentration Requirements

Mktg 3013, Consumer Behavior	3
Mktg 3073, Marketing Research	3
Mktg 4083, Marketing Management	3
Mktg 3000-4000 level electives.....	12
TOTAL HOURS.....	21

Marketing (Mktg)

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. Prerequisite: Junior standing.

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.

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.

3033 (3 hours)

Promotional Strategy

Decision-making in setting promotional objectives, creating promotional campaigns, and measuring promotional results. Prerequisite: Mktg 3003.

3043 (3 hours)

Sales & Sales Management

Principles, methods, and problems in the management of a sales organization. Covers the selling process and the job of the sales manager. Additionally, the course examines the process of developing partnerships with customer and coordinating sales with other functional areas. Prerequisite: Mktg 3003.

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.

3073 (3 hours)

Marketing Research

The research process with emphasis on evaluation and interpretation of marketing research. Prerequisite: Mktg 3003.

4013 (3 hours)

Social Responsibility in Business

This course examines the place of ethics and social responsibility in business decision-making. It focuses on the impact of ethical problems and dilemmas on a firm's stakeholders. Prerequisites: Bus 2013, Mgt 3003, Mktg 3003.

4083 (3 hours)

Marketing Management

The marketing managerial decision-making process with emphasis on problem structuring and evaluation are examined. 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 prac-

tice occasioned by international cultural, legal, and other environmental differences. Prerequisite: Mktg 3003.

4503 (3 hours)

Internship in Marketing

Combines work experience and academic experience in the area of marketing. Prerequisite: Mktg 3003, and approval of instructor prior to beginning internship.

4973 (3 hours)

Seminar in Marketing

A critical study of selected topics in marketing. Prerequisite: Mktg 3003.

4991-3 (1-3 hours)

Independent Study

Independent or directed study. Prerequisite: Mktg 3003 permission of instructor and department chair.

Management Information Systems

Chair

Anita S. Hollander

Professor

A. Gale Sullenberger

Associate Professor

Anita S. Hollander

Assistant Professors

Russell Haines

Lori N. Komp Leonard

Nicholas C. Romano, Jr.

Applied Assistant Professors

James M. Payne

Penny L. Pricer

The management information systems major 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 Concentration Requirements

CS 1043, Introduction to Programming and Problem-solving	3
MIS 2013, Business Programming Concepts I.....	3
MIS 3023, Business Programming Concepts II.....	3
MIS 3043, Telecommunications.....	3
MIS 3053, Database Design and Applications.....	3
MIS 4053, Systems Analysis and Design.....	3
MIS 4093, Systems Development Project.....	3
MIS Elective (3000-4000).....	3
TOTAL HOURS	24

Management Information Systems (MIS)

1123 (3 hours)

Business Information Technology

Focuses on developing personal productivity and problem-solving skills using information technology tools to solve business problems. Sample applications covered include E-mail, Internet tools, spreadsheets, computer generated graphics, descriptive statistics, and external database retrieval and manipulation.

2013 (3 hours)

Business Programming Concepts I

First of a two-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 enable students

to apply programming knowledge and logic skills using a variety of languages and tools. Prerequisite: MIS 1123.

2023 (3 hours)

COBOL

Students build COBOL language applications to address typical data processing problems. Prerequisite: MIS 2013 with a grade of C or better.

3003 (3 hours)

Introduction to MIS

Provides the foundation for understanding and analyzing information and systems in organizations. Students learn to use basic tools and techniques for presenting systems and further develop the personal productivity application skills introduced in MIS 1123. Prerequisite: MIS 1123.

3023 (3 hours)

Business Programming Concepts II

Second of a two-course study of programming logic, languages, standards and conventions, data and file structures, systems architectures and platforms, and fundamental IS knowledge and concepts. Includes both structured and windows programming concepts to enable students to apply their programming knowledge and logic skills using a variety of languages and tools. Prerequisite: MIS 2013 with a grade of C or better.

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 3003 with a grade of C or better. (MIS majors may take MIS 3003 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 3023 with a grade of C or better.

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: MIS 3053 with a grade of C or better; or as corequisite.

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 MIS 4053 each with a grade of C or better, and CS 1043.

4133 (3 hours)

MIS Senior Seminar

A series of modules designed to deepen learning in topics covered throughout the MIS curriculum concerning new technologies and trends. Topics include study of corporate applications (including ERP), object-oriented modeling and programming, comparisons of programming languages and paradigms, emerging IS thought and tools, and study of IT trends. Prerequisites: Senior standing and MIS major.

4143 (3 hours)

Decision Support Strategies

Examines information systems designed to support management decisions. Fundamental DSS and data warehousing concepts are covered. Language/tools for building DSS and data warehouses are also examined. Prerequisites: MIS 3003 and MIS 3023 each with a grade of C or better.

4163 (3 hours)

Internet Development Project

Develops the skills necessary to build Internet-based commerce infrastructures. A variety of web tools and concepts are introduced and applied. Prerequisites: MIS 3023 with a grade of C or better and CS 1043 (prior completion of MIS 3003 and MIS 3043 is strongly recommended).

4173 (3 hours)

Network Administration

Addresses issues relevant to managers of telecommunications networks. Students learn about the design and implementation of data networks and administration of network operating systems. Includes lab work and participation in network hardware/software projects. Prerequisite: MIS 3043 with a grade of C or better.

4973 (3 hours)

Seminar in Management Information Systems

A critical study of selected topics in management information systems. Permission of the instructor is required.

Bachelor of Science Program in International Business and Language (B.S.I.B.L.)

B.S.I.B.L. Degree Requirements (124 hours)

This degree combines the business core, emphasis on international business, and either French, German, or Spanish.

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 (20 hours)

Writing: Engl 1033, Exposition and Argumentation, and Engl 3003, Writing for the Professions

Mathematics: Math 1093, Mathematics with Applications, and Math 1103, Business Calculus, or higher level math

Language: students complete or show proficiency through the second-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 and 2023) and six other hours

Block III Scientific Investigation 7
(One hour of laboratory or field experience required)

II. Free Elective (3 hours)

III. Business Core (40 hours)

Business majors must earn a grade of C or better in each of the business core courses (except Bus 1001) in order to meet requirements for graduation.

A. Freshman Core

Bus 1001, Business Orientation (pass/fail)

Bus 1013, Business in Society

MIS 1123, Business Information Technology

B. Sophomore Core

Bus 2013, Legal Environment of Business

QM 2013, Statistics I

QM 2023, Statistics II

Acct 2113, Concepts of Accounting Information I

Acct 2123, Concepts of Accounting Information II

Econ 2013, Macroeconomics

Econ 2023, Microeconomics

C. Junior/Senior Level Core

Fin 3003, Business Finance
Mktg 3003, Principles of Marketing
QM 3023, Operations Management
Mgt 3003, Organization and Management
MIS 3003, Management Information Systems
Mgt 4073, Strategic Management

IV. International Business Concentration (9 hours)

IB 3013, Comparative Culture & International Business
Fin 4063, International Business Finance
Mktg 4093, International Marketing

V. Language Concentration (27 hours at 3000-4000 level)

French, German, or Spanish

Language concentrations must include 27 hours at the 3000 and 4000 levels. Of these, at least 21 hours are to be in courses taught in the concentration language. Up to six hours may be taken in the concentration language area of study and taught in English.

A foreign study experience and/or a foreign practical business experience is supported and strongly encouraged. An internship in a country where the concentration language is used extensively may be taken for credit.

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-with a week of travel abroad during spring break. Offered spring semester. Prerequisites: Fin 3003, QM 3023, Mktg 3003.

4013 (3 hours)

Topics in International Business

A critical study of selected topics in international business. Emphasis on contemporary economic and political relationships. Offered fall semester. Prerequisite: Junior standing and permission of international business advisor.

Five-Year Bachelors / M.B.A Degree Program

Undergraduates in Arts and Sciences and in Engineering and Natural Sciences may pursue a sequence of courses in business that will prepare them for the graduate business program and fulfill the first-year course requirements for the M.B.A. program. The courses listed below may supplement the student's major area, fulfill some requirements in the general curriculum or satisfy elective credits.

Completion of some or all of the courses listed below with grades of A or B enables the student to move easily into the university's M.B.A. program. Satisfactory completion of all these courses should allow a student to complete the M.B.A. with only one full year of graduate study.

The foundation courses for the M.B.A. program may be taken by a student enrolled in the joint B.S./M.B.A. or B.A./M.B.A. program during his or her senior year provided that he or she has been admitted into the M.B.A. program.

M.B.A. Foundation Courses (or the undergraduate equivalents may be taken)

Acct 0713, Accounting Concepts (or Acct 2113 and Acct 2123)

Econ 0713, Economic Concepts (or Econ 2013 and Econ 2023)

QM 0713, Statistical Analysis (or QM 2013 and QM 2023)

Math 0713, Mathematics for Business Applications (or Math 1093 and Math 1103)

Fin 0723, Finance Concepts (or Fin 3003)

Mgt 0723, Organization and Management Processes (or Mgt 3003)

Mktg 0723, Marketing Concepts (or Mktg 3003)

Bus 2013, Legal Environment of Business

MIS 0713, Management Information Systems Concepts (or MIS 1123 and MIS 3003)

QM 0723, Operations/Production Management (or QM 3023)

Students must apply for early admission to the M.B.A. program at the end of their third year of study (90 hours). Overall GPA is an important factor in admission to the M.B.A. program. Students should plan to take the Graduate Management Admission Test (GMAT) toward the end of their junior year.

Questions concerning these preparatory courses or The University of Tulsa graduate programs in business can be answered in the Graduate Business Programs Office. Also see the college website at <http://www.cba.utulsa.edu>.

Questions concerning how these preparatory courses apply to individual degree programs in Arts and Sciences and Engineering and Natural Sciences should be addressed with the student's undergraduate advisor.

Business Minor Programs

Accounting Minor

Accounting is an ideal complement to the other business administration majors. Other business fields depend heavily on collecting, maintaining, analyzing, and reporting business information.

The accounting minor consists of 18 semester hours, as follows:

- Acct 2113, Concepts in Accounting Information I
- Acct 2123, Concepts in Accounting Information II
- Acct 3113, Accounting Processes and Problem-solving IA
- Acct 3123, Accounting Processes and Problem-solving IB
- Acct 3110, Accounting Processes and Problem-solving I Laboratory
- Acct 3133, Accounting Processes and Problem-solving IIA
- Acct 3143, Accounting Processes and Problem-solving IIB
- Acct 3130, Accounting Processes and Problem-solving II Laboratory

Business Administration Minor

The College of Business Administration offers a business administration minor for non-business majors. The business administration minor consists of 30 semester hours as follows:

- Bus 1013, Business and Society
- Bus 2013, Legal Environment of Business
- MIS 1123, Business Information Technology
- QM 2013, Statistics I
- QM 2023, Statistics II
- Acct 2113, Concepts in Accounting Information I
- Acct 2123, Concepts in Accounting Information II

Business Core: (select 3 of the following)

- Fin 3003, Business Finance
- Mktg 3003, Principles of Marketing
- MIS 3003, Introduction to MIS
- Mgt 3003, Principles of Management
- QM 3023, Operations Management

Finance Minor

The program includes courses in financial management, investments, and financial institutions. Since a major component of virtually every business decision for both profit and not-for-profit firms is the financial implication of the decision, finance is a natural complement to business administration majors in accounting, economics, management, marketing, and management information systems.

The finance minor is restricted to business majors and requires a minimum of 12 semester hours, as follows:

Finance Requirements (6 hours)

Fin 3083, Investment Analysis and Portfolio Management I

Fin 3023, Financial Institutions and Markets I

Electives (select two courses from the following)

Fin 4003, Working Capital Management

Fin 4013, Long-Term Financial Decisions

Fin 4033, Risk Management

Fin 4043, Financial Institutions and Markets II

Fin 4083, Investment Analysis and Portfolio Management II

Fin 4063, International Business Finance

Fin 4113, Student Investment Fund I

International Business Studies Minor

The international business (IB) studies minor is designed for students who are majoring in a business discipline. It combines a competency in a modern foreign language, international business courses, and selected electives addressing economics, international relations, and cultural awareness and understanding. In addition to courses on the Tulsa campus, students in the IB minor are encouraged to participate in study abroad programs and have highest priority for TU-approved international business internships hosted by companies abroad.

The minor requires language proficiency (14 hours) and a minimum of 21 semester hours, as follows:

Language Requirement

University course work through the second year in a modern foreign language or demonstrated proficiency equivalent to two years of university course work. Students who enroll in a language course above 1004 and complete the course with a grade of C or better will receive “delayed proficiency credit” for the previous course as well. Some limits apply.

Required Courses (9 hours)

IB 3013, Comparative Culture and International Business

Fin 4063, International Business Finance

Mktg 4093, International Marketing

Other Requirements (12 hours)

Elective courses (12 hours to be selected from internationally-oriented courses required for the International Studies concentration or others offered in the College of Arts and Sciences and approved by an IB undergraduate advisor). These courses also may satisfy requirements in the Tulsa Curriculum.

Management Information Systems Minor

The management information systems minor is designed for students who want to develop their IT skills beyond the level required by their major field of study.

The minor requires a minimum of 15 semester hours, as follows:

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

Note: MIS 1123 and MIS 3003, required of all business majors, are prerequisites for many of the required courses.

Marketing Communication Minor

Designed for business and non-business students to provide an opportunity to pursue study in marketing to supplement their perspective and widen their range of career opportunities.

Marketing Communication Requirements (12 hours)

- Bus 1013, Business in Society
- Mktg 3003, Principles of Marketing
- Mktg 3013, Consumer Behavior
- Mktg 3033, Promotional Strategy

Business Certificate Programs

Certificate in Accounting

Director

Anita S. Hollander
Associate Professor of Accounting and
Management Information Systems

The certificate program in accounting 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 course work for junior standing at The University of Tulsa. Certification requires that students complete 24 credit hours in accounting with a minimum 2.0 grade point average.

Currently, the State of Oklahoma requires a bachelor's degree and a minimum of 30 hours of accounting, including auditing, to apply to sit for the CPA examination. On July 1, 2003, these requirements will change. At that time, 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 36 must be upper-division accounting courses, including one course in auditing.

Required Core

- Acct 2113, Concepts in Accounting Information I
- Acct 2123, Concepts in Accounting Information II
- Acct 3113, Accounting Processes and Problem-solving IA
- Acct 3123, Accounting Processes and Problem-solving IB
- Acct 3110, Accounting Processes and Problem-solving I Laboratory
- Acct 3133, Accounting Processes and Problem-solving IIA
- Acct 3143, Accounting Processes and Problem-solving IIB
- Acct 3130, Accounting Processes and Problem-solving II Laboratory

Electives (choose two from the following)

- Acct 4213, Financial Accounting Research Applications
- Acct 4223, Internal Reporting Issues
- Acct 4233, Topics in Federal Income Taxation
- Acct 4243, Auditing Assurance for Accounting Systems

Prerequisite: MIS 1123 or equivalent

Certificate in Finance

Director

Roger P. Bey
Professor of Finance

This 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, and international finance.

Those admitted to this program must either hold a bachelor's degree or have sufficient course work for junior standing at The University of Tulsa. Certification requires that students complete 15 hours of accredited course work in finance with a minimum 2.0 grade point average in all course work as well as in courses used to fulfill certification requirements.

Following are the course requirements and options:

Required Core

Fin 3083, Investment Analysis and Portfolio Management I
Fin 3023, Financial Institutions and Markets I

Electives (three from the following):

Fin 4003, Working Capital Management
Fin 4013, Long-Term Financial Decisions
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:

Students must successfully complete all prerequisites including the following courses before enrolling in 3000 and 4000 level courses.

Acct 2113, 2123
Econ 2013, 2023
Math 1093, 1103
QM 2013, 2023
MIS 1123

Certificate in Management Information Systems

Director

Anita S. Hollander

Associate Professor of Accounting and
Management Information Systems

The certificate program in management information systems (MIS) is designed for two groups of individuals. First, it prepares individuals 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). Second, the program is designed to help individuals with degrees in areas other than MIS enhance their information systems skills.

Those admitted to this program must either hold a bachelor's degree or have sufficient course work for junior standing at The University of Tulsa. Certification requires that students complete 18 hours of approved course work in management information systems (in addition to any prerequisites) with a minimum of 2.0 grade point average.

Required Core: (18 hours)

- MIS 2013, Business Programming Concepts I
- MIS 3003, 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

Although no electives are required for a certificate, students are encouraged to take additional courses from the following list. Students must fulfill course corequisites or prerequisites:

- MIS 2023, COBOL
- MIS 4093, Systems Development Project
- MIS 4143, Decision Support Strategies
- MIS 4163, Internet Development Project
- MIS 4173, Network Management
- MIS 4973, Seminar in Management Information Systems
- CS 1043, Introduction to Programming and Problem-solving

Prerequisite: MIS 1123 or equivalent

Undergraduate Healthcare Programs

Bachelor of Science Program in Athletic Training

Director

Greg Gardner

Assistant Professors

Marcia Burrus

Carl I. Flocks

Clinical Instructors

Kevin Beets

Deb Pavnica

Dave Polanski

Sydney Ringer

Clinical Assistant Professors

W. David Carr

Greg Gardner

Robin Ploeger

The athletic training program is an undergraduate program accredited by CAAHEP (Committee for the Accreditation of Allied Health Education Programs). It is designed to provide structured didactic and clinical experiences to prepare a student for a career in athletic training. Students are encouraged to become members of the National Athletic Trainers' Association and apply for licensure as apprentice athletic trainers.

Students desiring to enter this program must complete the athletic training application process. Each student is initially accepted as a prospective athletic training student, enrolls in prerequisite courses, and completes 80 hours of observation experience in the athletic training room during the fall semester. Formal acceptance into the clinical portion of the program may be granted upon successful completion of prerequisite course work, observation hours, an interview, and satisfaction of other university and CAAHEP standards. Owing to the program's clinical requirement, only a limited number of students are accepted each year.

Students must accumulate a minimum of 800 clinical hours under the direct supervision of a NATA certified and Oklahoma licensed athletic trainer who is recognized by the university as a clinical instructor. Clinical hours are earned as a part of practicum courses offered during the fall and spring semesters. Students are not allowed to complete more than one practicum course in any single semester. Enrollment in upper level athletic training courses is reserved for students admitted to the clinical portion of the curriculum, and for upper division students who receive the program director's permission.

Athletic training students are billed yearly for liability insurance, which is charged to the student's account. Students are also expected to maintain current CPR certification and provide proof of hepatitis B immunization, or signed waiver declining immunization.

Athletic training students who earn less than a B in each athletic training course must repeat the course. Athletic training students must maintain an overall grade point average of 2.8 on the 4.0 scale. Any student who falls below this standard will be placed on probation for the following semester. If the student does not achieve a 2.8 GPA by the end of the probation semester, he or she is dismissed from the program. Petition for readmission must be made to the program director. The ATRG Council will make readmission decisions following formal petition by the student.

Completion of the degree requirements in athletic training at The University of Tulsa entitles the recipient to apply to sit for the NATA Certification Examination as a curriculum candidate. Although the degree recipient is qualified to sit for the examination, permission to sit for the exam is controlled by the NATA Board of Certification and the decision is completely within that agency's jurisdiction.

B.S. in Athletic Training (ATRG)

Major (63 Hours)

ATRG 2004, Anatomy and Kinesiology
ATRG 2452, Drug Education/Pharmacology
ATRG 2552, Community First Aid & Safety
ATRG 2563, Sports Nutrition
ATRG 2603, Strategies for Healthy Living
ATRG 2653, Prevention and Treatment of Athletic Injuries
ATRG 2212, Orthopedic Assessment: Lower Extremity
ATRG 2211, Orthopedic Assessment: Lower Extremity Practicum
ATRG 3004, Exercise Physiology
ATRG 3032, Instructional Methods in Health
ATRG 3172, Prevention and Treatment Practicum
ATRG 3212, Orthopedic Assessment: Upper Extremity
ATRG 3211, Orthopedic Assessment: Upper Extremity Practicum
ATRG 3503, Therapeutic Rehabilitation Practicum
ATRG 3653, Therapeutic Rehabilitation
ATRG 3663, Therapeutic Modalities
ATRG 3713, Developing Strength and Conditioning Programs
ATRG 4031, Medical Terminology & Documentation
ATRG 4053, Legal Aspects of Athletic Training
ATRG 4172, Therapeutic Modalities Practicum
ATRG 4503, Organization/Administration Practicum
ATRG 4663, Athletic Training Organization/Administration
ATRG 4713, Biomechanics
ATRG 4723, Current Trends/Issues in Athletic Training
ATRG 4971, Applications in Athletic Training I
ATRG 4981, Applications in Athletic Training II

Support Courses

Biol 1023, Human Anatomy & Physiology
Biol 1021, Human Anatomy & Physiology Lab
Psy 2063, Human Development Over the Life Span
Psy 3013 or AHS 4043, Research Methods
Soc 2023, Educ 3733, QM 2013 or STAT 2013
Phys 1013, Introductory Physics I
Phys 1011, Introductory Physics I Lab

Prerequisites for physical therapy, medical, or other professional schools may be completed within this program, although courses may vary according to institutional requirements.

Students who wish to obtain teacher certification must complete the following professional education course work and course work within a subject area of specialization, e.g., science.

- Educ 1101, Introduction to Education
- Educ 2104, Foundations of Education
- Educ 3713, Child and Adolescent Development and Learning
- Educ 3733, Measurement and Evaluation in Education
- Educ 4013, Education of the Exceptional Child
- Educ 4214, Middle and Secondary Teaching Methods
- Educ 4626, Student Teaching in Middle School
- Educ 4636, Student Teaching in Secondary School
- Educ 4971, Student Teaching Seminar

Athletic Training (ATRG)

1013 (3 hours)

Concepts and Issues in Sports Science

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.

2004 (4 hours)

Anatomy and Kinesiology

Anatomical study of structure and function of human body specifically related to sport and physical performance. Emphasis on the mechanics of movement. Prerequisite: Biol 1023.

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.

2211 (1 hour)

Orthopedic Assessment: Lower Extremity Practicum

Techniques used to evaluate orthopedic and sports injuries to the lower extremity and thorax. For intermediate level students pursuing ad-

vanced level proficiencies, with emphasis on orthopedic assessment, goniometry, manual muscle testing techniques, and postural evaluations. Clinical hours provide opportunities to use the knowledge, skills, and techniques gained in the course. The student must complete 75 clinical hours, which apply toward the clinical hour requirement for NATA certification eligibility. Corequisite: ATRG 2212.

2212 (2 hours)

Orthopedic Assessment: Lower Extremity

Common types of orthopedic/sports 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. Should be taken in conjunction with ATRG 2211. Prerequisites: ATRG 2653, ATRG 2004.

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)

Community First Aid and Safety

Acquaints students with accident, injury, and illness situations, techniques for immediate first

aid, and legal parameters involved when administering emergency care. American Red Cross Certification in adult CPR and first aid is obtained.

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.

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. The practicum allows application of this knowledge to activities of daily living.

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.

3004 (4 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. Includes laboratory projects. Prerequisite: Biol 1023, ATRG 2004.

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.

3172 (2 hours)**Prevention and Treatment Practicum**

Focuses on taping, padding, and other techniques to prevent athletic injuries. Basic injury management techniques are also taught. Students are required to obtain 80 hours of clinical observation within the athletic training program.

Required for prospective athletic training students. Corequisite: ATRG 2653.

3211 (1 hour)**Orthopedic Assessment: Upper Extremity Practicum**

Techniques used to evaluate orthopedic and sports injuries to the upper extremity and thorax. For intermediate level students pursuing advanced level proficiencies, with emphasis on orthopedic assessment, goniometry, manual muscle testing techniques, and postural evaluations. Clinical hours provide opportunities to use the knowledge, skills, and techniques gained in the course. The student must complete 75 clinical hours, which apply toward the clinical hour requirement for NATA certification eligibility. Corequisite: ATRG 3212.

3212 (2 hours)**Orthopedic Assessment: Upper Extremity**

Common types of orthopedic/sports 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 2653, ATRG 2004. Corequisite: ATRG 3211.

3303 (3 hours)**Teaching and Coaching Sports Skills**

Provides skills and knowledge necessary to teach and coach physical activities. Organizing and planning on a seasonal basis is covered. Evaluation of teaching and coaching as an interactive teaching process using systematic observation techniques is discussed. Focus on teaching and coaching as an observable, measurable, learned, and dynamic behavior.

3403 (3 hours)**Methods in Elementary and Special Populations**

Presents teaching methodology and strategies for elementary and special populations. Basic teaching styles are covered as well as modification of those styles to accommodate individual differences. Basic physical and anthropometrical assessment techniques are taught. Includes opportunity for practice teaching in an elementary setting.

3503 (3 hours)

Therapeutic Rehabilitation Practicum

Focuses on techniques and clinical skills relating to the rehabilitation of injuries. Hands-on experience gained as the student completes required proficiencies. Clinical hours in the athletic training room give the student the opportunity to use the knowledge, skills, and techniques learned in this course. The student completes 225 documented clinical hours, which apply toward the clinical hour requirement for NATA certification eligibility. Corequisite: ATRG 3653.

3653 (3 hours)

Therapeutic Rehabilitation

Essentials of rehabilitation programs, physical examinations, principles of therapeutic exercise, muscle reeducation, techniques of rehabilitation, and special therapeutic techniques. Prerequisite: Phys 1013.

3663 (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.

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. Prerequisite: ATRG 2004, ATRG 3004, or permission of instructor.

4031 (1 hour)

Medical Terminology and Documentation

Commonly accepted terminology, note-writing, and documentation techniques in sports medicine.

4053 (3 hours)

Legal Aspects in Athletic Training

Analysis of the legal system and major prob-

lems/issues in sports medicine. Includes analysis of fundamental and current issues.

4172 (2 hours)

Therapeutic Modalities Practicum

Techniques and clinical skills relating to the treatment of injuries using therapeutic modalities. Hands-on experience is gained as the student completes required proficiencies. Clinical hours in athletic training room provide opportunities to use the knowledge, skills, and techniques gained in this course. The student completes 150 documented clinical hours, which apply toward the clinical hour requirement for NATA certification eligibility. Corequisite: ATRG 3663

4503 (3 hours)

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. Clinical hours in the athletic training room give the student the opportunity to use the knowledge, skills, and techniques learned in this course. The student completes 225 documented clinical hours, which apply toward the clinical hour requirement for NATA certification eligibility. Corequisite: ATRG 4663

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.

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. Prerequisite: ATRG 2004, Phys 1013.

4723 (3 hours)

Current Trends and Issues in Athletic Training

Emphasis on contemporary issues in sports medicine. Topics include casting and bracing tech-

niques, physical therapy techniques, orthopedics, general medicine and pharmacology in relation to the field of sports medicine. Includes laboratory experiences. Taught by a team physician.

4971 (1 hour)

Applications in Athletic Training

First semester of two-semester capstone course to be completed during the fall and spring semesters of the senior year. Course assists stu-

dents in their preparation for a career in athletic training and professional development.

4981 (1 hour)

Applications in Athletic Training

Second semester of two-semester capstone course to be completed during the fall and spring semesters of the senior year. Course assists students in their preparation for a career in athletic training and professional development.

Healthcare Minor Program

Coaching Minor

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 Education if the intent is to teach and coach in a public school. The coaching minor entails 17 hours and includes the following courses:

Required courses (8 hours)

ATRG 2552, Responding to Emergencies

ATRG 2653, Prevention and Treatment of Athletic Injuries

ATRG 3303, Teaching and Coaching Sports Skills

Electives (9 hours)

ATRG 1043, Concepts and Issues in Sports Science

*ATRG 2004, Human Anatomy and Kinesiology

ATRG 2452, Drug Education

ATRG 2563, Sports Nutrition

ATRG 2603, Personal Health

*ATRG 3004, Exercise Physiology

ATRG 3032, Instructional Methods in Health

ATRG 3543, Methods in Elem. and Special Populations

ATRG 4053, Legal Aspects of Athletic Training

ATRG 3713, Development of Strength and Conditioning Programs

ATRG 4053, Legal Aspects of Athletic Training

+ATRG 4713, Biomechanics

*Biol 1023, Human Anatomy and Physiology, is a prerequisite for ATRG 2003 and 3004. Students desiring to include these courses in their minor should take Biol 1023 as one of their Block III courses.

+Phys 1004, Investigations in Physics, or a higher level course, is strongly recommended prior to ATRG 4713, Biomechanics.

Bachelor of Science Program in Exercise and Sports Science

Director

Greg Gardner

Assistant Professors

Marcia Burrus

Carl Flocks

Clinical Instructors

Kevin Beets

Bobbie Carpenter

Deb Pavnica

Dave Polanski

Sydney Ringer

Clinical Assistant Professors

W. David Carr

Greg Gardner

Robin Ploeger

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.

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 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 undergraduate advisor to assure that all requirements are met.

Students pursuing this degree must maintain a 2.50 overall grade point average and complete the required internships. Internship experiences have pre-requisite courses, and enrollment requires the permission of the advisor. All courses within the major must be completed with a grade of C or better.

Students completing this degree should be advised that the following requirements must be met for successful completion of the internships:

Liability Insurance. Liability insurance is required for any student enrolled in Exercise and Sports Science clinical courses. Insurance fees are automatically billed to the student's account through the Business Office.

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 school dress code. (See Student Handbook for dress code)

Health Requirements. Prior to entry into clinical courses, students are required to present proof of the following immunizations and screenings to the exercise and sports science and School of Nursing secretary: TB test using CDC guidelines for two-step method or chest X-ray, measles, rubella screening, diphtheria, tetanus, mumps and hepatitis B. These may be done for a fee at the Alexander Health Center on campus or at a private physician's office. Students who do not desire the required rubella or hepatitis B immunization must sign a waiver.

Cardiopulmonary Resuscitation (CPR): Prior to the sophomore year and every year thereafter, exercise and sports science students must provide documentation of CPR certification for adults, children and infants using one and two man methods (American Red Cross CPR for Health Care Professional Rescuer or American Heart Association course 'C' Health Care Providers).

For descriptions of the athletic training courses listed below, see Bachelor of Science program in Athletic Training.

B.S. in Exercise and Sports Science (E&SS)

Major (45 hours, must be completed with grade of C or better)

ATRG 1013, Concepts and Issues in Sport Sciences

ATRG 2452, Drug Education

ATRG 2653, Prevention and Treatment of Athletic Injuries

ATRG 2552, Responding to Emergencies

ATRG 2603, Personal Health

ATRG 2004, Anatomy & Kinesiology

ATRG 2563, Sports Nutrition

ATRG 2701, Directed Observation

ATRG 3004, Exercise Physiology

ATRG 3032, Instructional Methods in Health

ATRG 3303, Teaching and Coaching Sport Skills

ATRG 3403, Instructional Techniques in Elementary and Special Populations

ATRG 4053, Legal Aspects in Athletic Training

ATRG 4713, Biomechanics

Nsg 3403, Human Sexuality

ATRG 3713, Development of Strength Programs

AHS 4043, Allied Health Research

Support Courses (27 hours)

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 select science and/or math courses which meet established prerequisites for the professional allied health programs to which they are applying. Students may also complete selected management and /or marketing courses if they plan to enter a corporate/commercial fitness setting. (ATRG 3515, ATRG 4415, and ATRG 4425 may be taken only with permission of advisor)

ATRG 2103, Women in Sports

ATRG 3515, Internship

ATRG 4415, Internship

ATRG 4425, Internship

Mgt 2033, Principles of Sports Management

Mgt 3003, Organization and Management

Mktg 3003, Principles of Marketing

Mgt 3043, Sports Marketing

QM 2013, Statistics I

Bachelor of Science Program in Nursing

Director

Susan K. Gaston

Assistant Professor

Lee Anne Nichols

Professors

Susan K. Gaston

Barbara Martin

Clinical Instructors

Marie Ahrens

Jim Blonksy

Bobbie Ann Carpenter

Helen Hansen

Rhonda Martin

Associate Professor

Kristie Nix

The School of Nursing's undergraduate curriculum leads to the bachelor of science degree in nursing. 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 an educated individual who is a professional nurse.

The School of Nursing's program is approved by the Oklahoma Board of Nursing and is accredited by the National League for Nursing Accrediting Commission, 61 Broadway, 33rd Floor, New York, NY 10006 (1-212-363-5555, ext 153). The school is a member of the Council on Baccalaureate and Higher Degree Programs of the National League for Nursing, the American Association of Colleges of Nursing, and the Midwest Alliance in Nursing.

Admission and Progression

Once admitted to the university, students apply to the School of Nursing for progression in 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. Advanced standing may be obtained with approval of courses on college transcripts. All students are assigned a faculty advisor to assist them in their advancement through the program. Students must earn at least a grade of C in all major core courses before entering courses for which the core course is a prerequisite. The student must have a University of Tulsa cumulative grade point average of 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 courses. A student who receives a grade below C in any nursing area of concentration or major core courses is required to reapply for admission to the program.

Nursing Scholarships

The University of Tulsa recognizes that financing a quality college education is often difficult, and we are dedicated to providing equal access to all qualified students. Grants, loans, and work study opportunities are available through the university's Office of Student Financial Services. Scholarship funds have been established for the School of Nursing that can cover up to one-half of tuition for those who have made exceptional grades in high school or college. These scholarships include monies from the Nettie M. Jones Foundation and St. Francis Hospital. Additional funds may be awarded directly to the student by Tulsa hospitals for the junior and senior year. 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. A tuition payment

plan is available through the Business Office. This plan allows payment of charges on an installment basis.

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 this university each spring semester.

Upward Mobility Program

Licensed Practical Nurses and Registered Nurses are encouraged to seek a baccalaureate degree in the School of Nursing. Although blanket credit for past educational achievement is not given, Licensed Practical Nurses may earn up to 13 credit hours through proficiency examinations in Nursing (Nsg) 2254, 2264, and 2273, and Applied Health Sciences (AHS) 2122. Registered nurses may transfer up to 15 credits in nursing including credit for Nsg 2232, 2254, 2264, and 2273, and AHS 2122 from an accredited institution of higher education. In addition, Registered Nurses may earn up to 36 credits by utilizing proficiency examinations and pass/fail. Registered Nurses may take proficiency examinations in Nsg 3154, 3164, 3174, 3254, 3264, and 3274 and must complete Nsg 2023, Health Assessment Across the Life Span. (This bridge course must be completed prior to entry into Level II nursing courses.) Nursing core requirements, university core requirements and courses from the Tulsa Curriculum may in some instances be completed at junior and other senior colleges. Once students reach junior standing (60 hours), no additional work from a junior college can be applied toward graduation requirements. Licensed nurses must show evidence of state licensure each year of enrollment in the nursing program.

Licensed Practical Nurses and Registered Nurses are expected to demonstrate the same competencies as other students for graduation. For further information, consult the Director of the School of Nursing.

Other Information and Requirements

Liability Insurance. Liability insurance is required for any student enrolled in nursing clinical courses. Insurance fees are automatically billed to the student's account through the Business Office.

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 school dress code. (See Student Handbook for dress code.)

Criminal Background Check. 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.

Health Requirements. Prior to entry into clinical courses, students are required to present proof of the following immunizations and screenings to the School of Nursing secretary: TB test using CDC guidelines for two step method or chest X- ray, measles, rubella screening, diphtheria, tetanus, mumps, and hepatitis B.

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.

Cardiopulmonary Resuscitation (CPR). Prior to sophomore admission and every year thereafter, nursing students must provide documentation of CPR certification for adults, children and infants using one and two man methods (American Red Cross CPR for Health Care Professional Rescuer or American Heart Association course 'C' Health Care Providers).

Licensure

The University of Tulsa cannot guarantee that completion of the baccalaureate program of nursing will enable one to take the National Council of State Board Licensure Examination for Nursing.

Curriculum of Study

All students in the School of Nursing are exposed to four distinct areas of study leading to completion of the B.S. degree in nursing, including the core curriculum, the Tulsa Curriculum, the major core, and the nursing area of concentration.

The 124-credit-hour degree program consists of the following requirements:

Core Curriculum.....	16
General Curriculum.....	26
Major Core.....	12
Nursing Area of Concentration.....	61
Electives.....	6
Nursing Electives.....	3

Major Core

The major core consists of biological, behavioral, and statistical sciences prerequisite to Levels in the nursing area of concentration. The following courses must be completed with a grade of C or better:

Prior to Level I Clinical Second semester

Biol 1023 & 1021, Anatomy and Physiology & Lab.....	4
AHS 2122, Normal Nutrition.....	2
Psy 2063, Human Development Over the Life Span (Block II in General Curriculum)	

Prior to Level II Clinical

AHS 2223, Microbiology for Health Professionals.....	3
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Prior to Level III - Second semester

QM 2013, Statistics I	
AHS 4043, Introduction to Applied Health Care Research.....	3
TOTAL HOURS.....	12

Nursing Area of Concentration

The area of concentration 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 core. The area of concentration 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 better.

B.S. Nursing (Concentration Courses)

Nsg 1012, Overview of Nursing.....	2
Nsg 2232, Pharmacology and Metrology	2
Nsg 2254, Applied Science I	4
Nsg 2264, Nursing Science I	4
Nsg 2273, Nursing Interventions I.....	3
Nsg 3154, Applied Science II.....	4
Nsg 3164, Nursing Science II.....	4
Nsg 3174, Nursing Interventions II	4
Nsg 3254, Applied Science III.....	4
Nsg 3264, Nursing Science III.....	4
Nsg 3274, Nursing Interventions III.....	4
Nsg 4154, Applied Science IV.....	4
Nsg 4164, Nursing Science IV.....	4
Nsg 4174, Nursing Interventions IV.....	4
Nsg 4263, Nursing Science V.....	3
Nsg 4275, Nursing Interventions V.....	5
Nsg 4232, Nursing Trends.....	2
TOTAL HOURS.....	61

(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

Engl 1033, Exposition & Argumentation	3
Math 1093, Mathematics with Applications.....	3
Chem 1003, Introductory Chemistry (Block III).....	3
Chem 1001, Chem Lab	1
Bus 1001, CBA Orientation.....	1
Bus 1013, Business and Society (Block II).....	3
Block I Elective.....	3
TOTAL HOURS.....	17

Spring Semester

Block I Elective.....	3
Psy 2063, Human Development Over the Life Span (Block II).....	3
Block II Elective	3
Biol 1504, Cellular Biology (Block III).....	4
Elective.....	3
TOTAL HOURS.....	16

Sophomore Year

Fall Semester

Nsg 1012, Overview of Nursing.....2
 Block II Elective3
 MIS 1123, Business Information Technology.....3
 AHS 2122, Nutrition.....2
 Biol 1023, Anatomy & Physiology.....3
 Biol 1021, Anatomy & Physiology Lab1
TOTAL HOURS.....14

Spring Semester

Nsg 2254, Applied Science I4
 Nsg 2264, Nursing Science I4
 Nsg 2273, Nursing Interventions I.....3
 Nsg 2232, Pharmacology.....2
 AHS 2223, Microbiology for Health Professionals.....3
TOTAL HOURS.....16

Junior Year

Fall Semester

Nsg 3154, Applied Science II.....4
 Nsg 3164, Nursing Science II.....4
 Nsg 3174, Nursing Interventions II4
 QM 2013, Statistics I3
TOTAL HOURS.....15

Spring Semester

Nsg 3254, Applied Science III.....4
 Nsg 3264, Nursing Science III.....4
 Nsg 3274, Nursing Interventions III.....4
 AHS 4043, Introduction to Applied
 Health Care Research.....3
TOTAL HOURS.....15

Senior Year

Fall Semester

Nsg 4154, Applied Science IV.....4
 Nsg 4164, Nursing Science IV.....4
 Nsg 4174, Nursing Interventions IV.....4
 Elective.....3
TOTAL HOURS.....15

Spring Semester

Nsg 4263, Nursing Science V.....3
 Nsg 4275, Nursing Interventions V.....5
 Nsg 4232, Nursing Trends.....2
 Engl 3003, Writing for the Professions3
 Nsg Elective3
TOTAL HOURS.....16

Nursing (Nsg)**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 Schools use of the Roy Adaptation Model of Nursing Practice. Prerequisite: Admission to the nursing program or permission of the School of Nursing Director.

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.

2123 (3 hours)**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.

2232 (2 hours)**Pharmacology and Metrology**

Basic principles of pharmacotherapeutics utilized by professional nurses, and metrology calculation related to drugs and solutions. Prerequisites: Chem 1001, 1003. Corequisites: Nsg 2254, 2264, 2273.

2242 (2 hours)**Transcultural Health Care**

Lifestyles, health beliefs, and health practices of various cultural groups. Prevention of undue cultural shock and cultural clashes related to transcultural health care problems.

2254 (4 hours)**Applied Science I**

Health and simple disruptions in daily life. Includes pathophysiology. Prerequisites: Biol 1023 and 1021, Psy 2063. Corequisites: Nsg 2264, 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 2063, AHS 2122, Biol 1023 & 1021. Corequisites: Nsg 2254, 2273, 2232.

2273 (3 hours)**Nursing Interventions I**

Application of concepts and principles from Applied Science I and Nursing Science I in the care of clients across the life span in clinical settings. Prerequisites: Psy 2063, Biol 1023 & 1021. Corequisites: Nsg 2254, 2264, 2232.

3154 (4 hours)**Applied Science II**

Acute disruptions of health across the life span. Includes pathophysiological and psychopathologic processes, applied theories, medical, nutritional, and pharmacological management. Prerequisites: Nsg 2254, 2264, 2273, 2232; AHS 2223. Corequisites: Nsg 3164, 3174.

3164 (4 hours)**Nursing Science II**

Use of the nursing process to help clients and families adapt to acute disruptions of health presented in Applied Science II. Prerequisites: Nsg 2254, 2264, 2273, 2232; AHS 2223. Corequisites: Nsg 3154, 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 clients and families across the life span in acute care and community settings. Prerequisites: Nsg 2254, 2264, 2273, 2232; AHS 2223. Corequisites: Nsg 3154, 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 pathophysiological processes, applied theories, medical, nutritional, and pharmacological management. Prerequisites: Nsg 3154, 3164, 3174. Corequisites: Nsg 3264, 3274.

3264 (4 hours)

Nursing Science III

Continuation of Nursing Science II with emphasis on the nursing process to promote adaptation of clients and families experiencing acute disruptions of health presented in Applied Science III. Prerequisites: Nsg 3154, 3164, 3174. Corequisites: Nsg 3254, 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 clients and families across the life span in acute care and community settings. Prerequisites: Nsg 3154, 3164, 3174. Corequisites: Nsg 3254, 3264.

3403 (3 hours)

Human Sexuality

Introduction to human sexuality providing basic understanding of biopsychosocial factors in human sexual functioning. Opportunity for students to explore own values and attitudes. Not designed specifically for nursing majors.

4213 (3 hours)

Challenges of Childhood

Challenges presented by developmental disability to child, family, and community; and genetic, prenatal, environmental and cultural influences upon 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.

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, 3274. Corequisites: Nsg 4164, 4174.

4164 (4 hours)

Nursing Science IV

Use of the nursing process to help clients and families adapt to the chronic disruptions of health presented in Applied Science IV. Prerequisites: Nsg 3254, 3264, 3274. Corequisites: Nsg 4154, 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 clients, families and communities experiencing chronic health disruptions in acute care and community settings. Prerequisites: Nsg 3254, 3264 and 3274. Corequisites: Nsg 4154 and 4164.

4203 (3 hours)

Nursing and Computers

The use of computers in nursing practice, service administration, education, and research. Basic computer structures and functions are introduced. Experiences include use of microcomputers and mainframe computers, nursing software, clinical computers, and hospital information systems.

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, 3274.

4263 (3 hours)

Nursing Science V

Theories of leadership and management in nursing. Prerequisites: Nsg 4154, 4164, 4174, AHS 4043. Corequisite: Nsg 4275.

4275 (5 hours)

Nursing Interventions V

Refinement of skill in applying nursing process, principles of leadership, and management to the care of clients experiencing health disruptions across the life span in a variety of settings. Prerequisites: Nsg 4154, 4164, 4174, AHS 4043. Corequisite: Nsg 4263.

4902 (2 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, 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 or two years of high school algebra and MIS 1123 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.

2132 (2 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 microorganisms characteristics, growth requirements, and methods of transfer. Emphasis on the effect of microorganisms on health of individuals and the principles underlying immunity. Prerequisites: Bio 1504 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.

The College of Engineering and Natural Sciences

The College of Engineering and Natural Sciences offers curricula designed to provide a liberal education in both the humanities and the sciences, so that students gain insight into the roles of the engineer and scientist within the complex interactions of American society. Emphasis is placed upon developing the students' curiosity and creativity rather than on mere indoctrination in current industrial technologies.

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:

- 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 from the collegiate dean 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 collegiate dean 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

To graduate from the College of Engineering and Natural Sciences, students must earn an overall minimum grade point average of 2.0 as well as a 2.0 or above in their major, as defined by the individual department.

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 1003, Introduction to College Writing, in order to provide them with additional skills necessary for college-level writing. These students will complete Engl 1003 and Engl 1033 in their first two semesters in residence, again followed by Writing for the Professions (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 prior to that enrollment.

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 Advising Office. Deadlines for declaring this option are not subject to change.

Students enrolled through the College of Engineering and Natural Sciences may take all general education courses offered by other colleges Pass/D-F, except English 1003, 1033, 1063, and 3003. In general, technical courses may not be taken Pass/D-F by engineering or science students. 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 with less than a 2.0 grade-point average 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.
- 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.

Honors Program

Freshmen entering the College of Engineering and Natural Sciences with exceptional records will be considered for the university's Honors Program. Interested students should consult

page 20 of this bulletin for more detailed information or get in touch with the director of the Honors Program.

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, national engineering honor society. Candidates must also exhibit personal integrity, a range of interests within and without the field of engineering, and an ability to adapt to a wide range of professional situations.

Undergraduate Degree Options and Curricula

The College offers undergraduate curricula leading to the following bachelor of science degrees:

- Applied Mathematics
 - Business Option
 - Computer Sciences Option
 - Education Option
 - Engineering Option
 - Environmental Sciences Option
- Biochemistry
- Biology
 - BS
 - BA
- Chemical Engineering
 - Environmental Engineering Option
 - Materials Option
 - Pre-med Option
 - Refining Option
- Chemistry
 - BS
 - BA
- Computer Information Systems
- Computer Science
- Earth and Environmental Sciences
- Electrical Engineering
- Engineering Physics
- Geosciences
 - Geology
 - BS
 - BA
 - Environmental Option
 - Geophysics Option
 - Geophysics Option with Computer Science Minor
 - Petroleum Engineering Minor

- Mathematics
 - BS
 - BA
- Mechanical Engineering
- Petroleum Engineering
 - Chemical Engineering Minor
 - Environmental Engineering Minor
 - Geosciences Minor
 - Mechanical Engineering Minor
- Physics
 - BS
 - BA

The B.S. degree programs in chemical engineering, electrical engineering, mechanical engineering, petroleum engineering, and engineering physics are accredited by the Accreditation Board for Engineering and Technology. The B.S. in computer science is accredited by the Computer Science Accreditation Commission (CSAC) of the Computing Sciences Accreditation Board (CSAB), a specialized accrediting body recognized by the Council for Higher Education Accreditation (CHEA). The B.S. degree program 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 Education in the College of Arts and Sciences and the major department advisor.

Five Year Bachelors/M.B.A. Degree Program

Undergraduates in Arts and Sciences, Engineering and Natural Sciences, and Business Administration may pursue a sequence of courses in business that will prepare them for graduate business study and fulfill the first-year course requirements for the M.B.A. program. The courses listed below may supplement the student's major area and can also fulfill some requirements in the general curriculum, satisfy elective credits, or be designed as supportive subjects.

These courses constitute a minor in Business Administration for non-business majors. Completion of some or all of the courses listed below with grades of A or B enables the student to move easily into the university's M.B.A. program. Satisfactory completion of all these courses should allow a student to complete the M.B.A. with only one full year of graduate study.

Acct 2113 and 2123
Econ 2013 and 2023
Bus 2023
Math 1093 and 1103*
Bus 1023, Bus 2113 and 2123*
Functions of Business I and II
Bus 3012, Business Finance
Bus 3022, Marketing
Bus 3032, Operations Management

Bus 3062, Organization and Management
Bus 3072, Management Information Systems
Bus 3111, Strategic Management I
Bus 3081, Strategic Management II
Bus 3051, Business Functions Lab I
Bus 3091, Business Functions Lab II

*Equivalent courses in other colleges are acceptable.

Grade-point averages in these courses and overall GPA are important factors in the M.B.A. program. Students should plan to take the Graduate Management Admission Test (GMAT) during their senior year.

Questions concerning these preparatory courses or The University of Tulsa graduate programs in business can be answered in Business Administration Hall 308, Graduate Business Studies.

Questions concerning how these preparatory courses apply to individual degree plans should be addressed to the student's undergraduate advisor.

Electives

Many curricula in the College of Engineering and Natural Sciences contain a number of elective courses. These electives are normally divided into the following two categories:

Approved Electives. These should be selected with the approval of the student's faculty advisor and the collegiate dean.

Humanities and Social Sciences Electives. These electives should form a program that either reflects a rationale or fulfills an objective appropriate to both a technical profession and the institution's educational objectives and also meets the requirements of the Tulsa Curriculum. Courses treating subjects such as accounting, industrial management, and finance normally do not fulfill this objective, regardless of their general value in the total curriculum.

Courses that qualify as humanities and social sciences electives are typically in art history, English literature, fine arts appreciation, history, interdisciplinary areas, philosophy, political science, and religion. Certain courses in anthropology, economics, geography, psychology, and sociology may also qualify.

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 can 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.

Any student pursuing a double major who also wishes to earn a second degree must complete an additional 30 hours beyond the total required for a single degree.

Biological Science

Chair

Glen Collier

Professors

Glen Collier

Estelle Levetin

Richard L. Reeder

Associate Professors

Charles R. Brown

Mark A. Buchheim

Kenton S. Miller

Harrington Wells

Assistant Professors

Brad A. Amendt

Laura Berkowitz

Peggy S. Hill

William A. Rosche

Randy Wymore

Instructor

Karen A. McMahon

The Department of Biological Science offers B.S., B.A., M.A., and Ph.D. degrees. 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, reproductive biology, and molecular genetics.

Major

Core Courses

Biol 1504, The Biology of Populations

Biol 1604, Biological Diversity

Biol 2504, Cell and Molecular Biology I

Biol 2604, Cell and Molecular Biology II

Major requirements beyond the core courses are completed by taking a minimum of 24 hours of additional elective biology courses for a total of 40 semester hours. Biology Block III courses do not count toward the major. In addition to the biology requirements, all biology majors must complete the following: Chem 1011, 1013, 1021 and 1023, Math 2014, and Stat 2013.

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

Nursing students in consultation with a nursing advisor should enroll for the sequence Biol 1023, 1021, and 1054.

Minor

Biology majors may minor in any subject. However, we strongly recommend that a minor in physical sciences (including inorganic/organic chemistry and physics) be considered since many biology elective courses presume an understanding of basic organic chemistry and most professional and graduate schools require 16 hours of chemistry, eight hours of physics, and mathematics through calculus.

Students seeking secondary teacher certification in biology must also complete requirements for a second major in education (pp. 100-105). In addition, teacher certification requires proficiency in a second language at the novice level (p. 105).

A student must complete the biology major with a 2.2 GPA as well as a 2.0 overall GPA in order to graduate.

1003 (3 hours)

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.

1013 (3 hours)

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.

1021 (1 hour)

Human Anatomy and Physiology Laboratory

The structure and function of major human organ systems, including dissection of a mammal and an experimental approach to human physiological processes. Three hours per week. Prerequisite: Biol 1023 (may be taken concurrently). Not creditable toward a major in biological science.

1023 (3 hours)

Human Anatomy and Physiology

Introduction to the structure, organization and function of the human body, using an organ-sys-

tem approach. Not creditable toward a major in biological science.

1031 (1 hour)

The Environment and Humanity Laboratory

Laboratory and field exercises plus field trips provide firsthand knowledge of the major environmental issues challenging the world today.

1033 (3 hours)

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)

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.

1053 (3 hours)

Plagues and Pestilence

The relationship between humans and the micro-

bial 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.

1063 (3 hours)**The Social Life of Animals**

Introduction to the study of animal behavior, emphasizing the application of the scientific method to test hypotheses. Topics include animal communication, learning, foraging, spacing behavior, courtship and mating, parental care, and human social behavior. Not creditable toward a major in biological science.

1504 (4 hours)**The Biology of Populations**

Introduction to the composition, growth and genetic structure of populations of organisms. Quantitative in content since the techniques of population ecology and genetics are statistical and problem-solving in orientation. Lecture three hours per week, laboratory three hours per week.

1604 (4 hours)**Biological Diversity**

Introduction to the pattern of biological diversity and the processes that produce diversity. Lecture three hours per week, laboratory three hours per week.

1991 (1 hour)**Introduction to Biological Science**

An overview and introduction to the field of biological science.

2504 (4 hours)**Cell and Molecular Biology I**

Introduction to the basic molecular composition of cells, structure and function of DNA, and the evolution of the cell. Lecture three hours per week, laboratory three hours per week. Prerequisites: Chem 1011, 1013, 1021, and 1023.

2604 (4 hours)**Cell and Molecular Biology II**

Introduction to the macromolecular composition, structure, and function of cell organelles. Lecture three hours per week, laboratory three hours per week.

3054 (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: Biology core courses; a previous physiology or anatomy course is helpful.

3084 (4 hours)**Microbial Physiology and Genetics**

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. Prerequisites: Biology core courses.

3123 (3 hours)**Advanced Genetics**

Elucidation of the principles of transmission, mutation, and function of genetic material. Application of genetic analysis to other biological questions. Prerequisites: Biology core courses.

3143 (3 hours)**Evolution**

Patterns of biological diversity and processes that produce and maintain diversity. Prerequisites: Biology core courses.

3153 (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 1504, 1604.

3164 (4 hours)**Field Ecology**

Lecture and field course emphasizing ecological principles through field experiments. Includes design and implementation of field studies and analysis of data that are generated. Emphasizes hypothesis testing on topics such as population size, pollination biology, animal behavior, demography, conservation biology, habitat selection, and community organization. Independent research project required. Lecture and

laboratory combined, four hours per week. Prerequisites: Biol 1504, 1604.

3204 (4 hours)

Comparative Vertebrate Anatomy

Comparative study of the structure and function of chordate organ systems with emphasis on vertebrates. Lecture three hours per week, laboratory six hours per week. Prerequisites: Biology core courses.

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: Biology core courses, chemistry.

3234 (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: Biology core courses, chemistry.

3254 (4 hours)

Comparative Vertebrate Embryology

Comparative developmental anatomy of the vertebrates. Lecture three hours per week, laboratory four hours per week. Prerequisites: Biology core courses.

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 1504, 1604.

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 1504, 1604.

3464 (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: Biology core courses.

3504 (4 hours)

The Higher Plants

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 1504, 1604.

3524 (4 hours)

Plant Systematics

Introduction to plant identification, taxonomy, and systematics, with emphasis on regional flora. Lecture three hours per week, laboratory (or field investigation) three hours per week. Prerequisites: Biol 1504, 1604.

3604 (4 hours)

Selected Topics in Invertebrate Zoology

Lecture and lab/field 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 1504, 1604.

3614 (4 hours)

Selected Topics in Vertebrate Zoology

Lecture and lab/field 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 1504, 1604.

3623 (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 is placed on the impact that plants have on the health of humans. Prerequisites: Biol 1504, 1604, Chem 3013.

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: Biology core courses, and Biol 3084 or Biol 3314.

4053 (3 hours)**Host-Parasite Interactions**

Molecular basis of host-parasite interactions is examined with emphasis on current experimental approaches to understanding microbial pathogenicity and disease. Prerequisites: Biology core courses and Biol 3084.

4083 (3 hours)**Experimental Microbiology**

Lecture/laboratory course that emphasizes methods in microbial genetics and microbial physiology. Includes laboratory exercises in preparation for the design and execution of individual research projects. Prerequisite: Biol 3083.

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: Biology core courses.

4123 (3 hours)**Selected Topics in Microbiology**

Senior seminar that provides experience in critical reading, discussion, and written evaluation of professional papers in the fields of microbial ecology, genetics, and diversity. Prerequisites: Biology core courses, Biol 3083 or Biol 3084.

4133 (3 hours)**Immunology**

Comprehensive survey of cellular and molecular mechanisms involved in host immune protection, auto immunity, and immunopathologic processes. Lecture three hours per week. Prerequisites: Biology core courses.

4243 (3 hours)**Mechanisms of Animal Development**

Analysis of mechanisms of differentiation and

development in several model animal systems, including mouse, frog, chicken and drosophila. Emphasis on the genetic contribution to the developmental program, cell:cell interactions and environmental factors that influence development. Prerequisites: Biology core courses.

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: Biology core courses.

4263 (3 hours)**Selected Topics in Molecular Genetics**

Emphasis on examination of current research in a selected topic in molecular genetics. The topic varies from year to year depending on the interest and expertise of the presenter, but is drawn from such areas as control of transcription in eukaryotes, DNA replication and control of chromosome structure and function. Prerequisites: Biology core courses.

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: Biology core courses.

4933-4943 (3-6 hours)**Senior Research in Biological Science**

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 to discuss current biological problems, submission of research results in thesis form, and oral examination by a faculty committee. Normally, two consecutive semesters (fall-spring) for a maximum of 6 hours credit. Prerequisites: Permission of the instructor with whom work is to be done and faculty approval.

3991-3 or 4991-3 (1-3 hours)**Independent Research**

Chemical Engineering

Chair

Keith D. Wisecarver

Assistant Professor

Laura P. Ford

Professors

Kraemer D. Luks

Francis S. Manning

Kerry L. Sublette

Applied Assistant Professor

Christi L. Patton

Associate Professors

Charles M. Sheppard

Keith D. Wisecarver

The Department of Chemical Engineering offers a curriculum leading to the B.S. degree, with emphasis on present and unsolved problems that demand imagination and ingenuity. A solid background in the basic and engineering sciences is provided along with the latest skills of chemical engineering unit operations, transport phenomena, reaction engineering, plant design, and economics. The use of computers as engineering tools is emphasized.

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, 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 advisors' approval, may make additional substitutions in the curriculum to allow further specialization in their selected areas of interest.

Graduates of the program are prepared for:

- Work in process design or manufacturing within the chemical process industries including energy-related industries, environmental, materials, and biotechnology.
- Graduate school in chemical engineering.
- Graduate school in fields outside engineering, including medicine, law, and business administration.

Chemical Engineering Requirements

Mathematical Sciences.....	20
Math 2014, 2024, 2073, Calculus I, II, and III	
Math 3073, Differential Equations	
Math Elective (4000 - level math or Statistics 3813)	
CS 2503, Scientific Programming	
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	
Chem 4023 and 4021, Physical Chemistry II and Lab	

Chem 4033, 4031, Instrumental Analysis and Lab	
Phys 2053 and 2051, General Physics I and Lab	
Phys 2063 and 2061, General Physics II and Lab	
Advanced Technical Elective (3 hours)*	
Engineering Sciences.....	18
EE 2003, Electrical Circuit Analysis	
ES 2053, Introduction to Material Properties	
ES 3003, Introductory Fluid Mechanics	
ES 3053, Thermodynamics	
ES 3073, Heat Transfer	
Advanced Technical Elective (3 hours)*	
Chemical Engineering.....	35
ChE 1002, Introduction to Chemical Engineering	
ChE 1012, 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 4104, Process Component Design	
ChE 4113, Process Control	
ChE 4972, The Profession of Chemical Engineering	
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

*These courses must form a cohesive area of specialization, must be approved by the advisor, and must meet ABET/AIChE accreditation criteria.

Some students will complete a modified series of courses. See Special Requirements, page 239, for details.

For calculating grade averages, major courses shall be: ES 3003, 3053, and 3073, and all chemical engineering courses. To graduate, a chemical engineering student must earn a 2.0 or better in the major and overall.

1002 (2 hours)**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.

1012 (2 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 1002 or permission of instructor. Corequisite: Math 2014.

1024 (4 hours)**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.

2003 (3 hours)**Principles of Chemical Engineering**

Stoichiometry, material and energy balances. Introduction to practical engineering problems, including computer methods. Prerequisite: 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 chemical reactions, fluid flow, and vapor-liquid equilibrium. 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. Prerequisite: ChE 3063.

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 and 3073.

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: 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. Prerequisite: 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: ChE 4063, 4104.

4104 (4 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 for

chemical processes, including PID feedback control, feed-forward control, and cascade control. Prerequisite: Math 3073. Corequisite: ChE 3084.

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. Prerequisite: 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****4972 (2 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.

4963 (3 hours)**Senior Thesis**

Continuation of ChE 4983, culminating in a bachelor's thesis. Prerequisite: ChE 4983.

4981-3 (1-3 hours)**Undergraduate Research**

Individual research projects under the direction of a faculty member. Prerequisite: Permission of instructor.

4991-3 (1-3 hours)**Independent Study**

Independent or group study on special topics. Prerequisite: Permission of instructor.

Chemistry and Biochemistry

Chair

Dale C. Teeters

Professors

Robert E. Howard

Dale C. Teeters

Associate Professors

Thomas M. Harris

William T. Potter

Gordon Purser

Nicholas E. Takach

Assistant Professors

Gilbert N. Belofsky

John DiCesare

Instructors

Rita Rhodes

Keith Symcox

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 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 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, advanced materials, applied, 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).

Students from other disciplines may minor in chemistry, which consists of 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.

Students seeking secondary teacher certification in chemistry must also complete requirements for a second major in education (pp. 100-105). In addition, teacher certification requires proficiency in a second language at the novice level (p. 105).

B.S. Chemistry

Chemistry.....	46
Chem 1013 and 1011, General Chemistry I and Lab	
Chem 1023 and 1021, General Chemistry II and Lab	
Chem 1991, Introduction to Chemistry	
Chem 2014, Quantitative Analysis	

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 4013, Qualitative Organic Analysis	
Chem 4101, Inorganic Synthesis and Characterization	
Chem 4023 and 4021, Physical Chemistry II and Lab	
Chem 4033, Instrumental Analysis	
Chem 4043, Inorganic Chemistry	
Chem 4051, Instrumental Analysis Laboratory	
Chem 4872, Introduction to Research	
Chem 4962, Senior Thesis	
Physics and Mathematics.....	22
Phys 2053 and 2051, General Physics I and Lab	
Phys 2063 and 2061, General Physics II and Lab	
Math 2014, 2024, 2073, Calculus I, II and III	
CS 2503, Scientific Programming	
Humanities, Social Sciences, and English.....	24
Engl 1033 and 3003, Exposition and Argumentation, Writing for the Professions*	
Humanities and social science electives (18 hours of approved courses to meet Tulsa Curriculum requirements)	
General Electives.....	18
Approved Electives in science, mathematics, computer science, and/or engineering courses..	18
TOTAL HOURS	128

B.S. Biochemistry

Chemistry.....	45-46
(depending on laboratory electives)	
Chem 1013 and 1011, General Chemistry I and Lab	
Chem 1023 and 1021, General Chemistry II and Lab	
Chem 1991, Introduction to Chemistry	
Chem 2014, Quantitative Analysis	
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 4033, Instrumental Analysis	
Chem 4051, Instrumental Analysis Laboratory	
Chem 4133 and 4131, Biochemistry I and Lab	
Chem 4143, Biochemistry II	
Chem 4872, Introduction to Research	
Chem 4962, Senior Thesis	
Electives in chemistry 3-4 (chosen in consultation with advisor)	
Biology Electives.....	15-16
(chosen in consultation with advisor)	

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, Calculus I and II	
Elective in mathematics, computer science or statistics	3
(chosen in consultation with advisor)	
Humanities, Social Sciences, and English.....	24
Engl 1033 and 3003, Exposition and Argumentation, Writing for the Professions*	
Humanities and Social Science electives (18 hours of approved courses to meet Tulsa Curriculum requirements)	
General Electives.....	15
Approved Electives in science, mathematics, computer science, and/or engineering courses.....	6-8
(chosen in consultation with advisor)	
TOTAL HOURS.....	126

B.A. Chemistry

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 2014, Quantitative Analysis	
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 4872, Introduction to Research	
Chem 4962, Senior Thesis	
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 and 3003, Exposition and Argumentation, 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, page 239, for details.

Chemistry majors must earn a 2.0 or better in the major and overall to graduate.

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. Prerequisite: Permission of the instructor.

1001 (1 hour)**Introductory Chemistry Laboratory**

Experiments that teach fundamental laboratory techniques and skills. Only for students who do not plan to enroll in any higher level chemistry course.

1003 (3 hours)**Introductory Chemistry**

For those who have had less than two years of high school mathematics. Introduces the fundamental laws and theories of chemistry, selected topics in inorganic, organic, and biochemistry. Does not fulfill chemistry requirements for science or engineering majors, but may be used to gain background needed for Chem 1013. No prerequisites, although familiarity with high school algebra is very helpful.

1011 (1 hour)**General Chemistry I Laboratory**

Basic chemical laboratory techniques stressing experimental quantitative analysis. Prerequisite or corequisite: Chem 1003 or 1013.

1013 (3 hours)**General Chemistry I**

First course in a two-semester sequence dealing with basic phenomena and principles of chemistry. Prerequisites: Three years of high school mathematics or Chem 1003. (Note: Chem 1013 is a prerequisite for Chem 1023.)

1021 (1 hour)**General Chemistry II Laboratory**

A continuation of Chemistry 1011, including experimental qualitative analysis. Prerequisites: Chem 1013, 1011. Prerequisite or corequisite: Chem 1023.

1023 (3 hours)**General Chemistry II**

Topics in equilibrium relationships and descriptive chemistry. Continues Chem 1013. Prerequisites: Chem 1013, Chem 1011.

1991 (1 hour)**Introduction to Chemistry**

An overview and introduction to the field of chemistry.

2014 (4 hours)**Quantitative Analysis**

Theory and practice of organic and inorganic quantitative analysis, including an introduction to instrumental analysis. Three lectures and three laboratory hours per week. Prerequisites: Chem 1011, 1013, 1021, 1023

2101 (1 hour)**Sophomore Seminar**

Seminars designed to broaden student's knowledge of contemporary chemistry.

2032 (2 hours)**Molecular Modeling**

Introduction to molecular modeling on the computer, using commercial software packages.

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**

A first course in organic chemistry emphasizing bonding, structures, nomenclature, reactions, stereochemistry, mechanisms and syntheses of aliphatic and aromatic hydrocarbons, halides, alcohols and ethers. 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**

A continuation of Chem 3013, with emphasis on the chemistry of aldehydes, ketones, acids, acid derivatives, amines, polyfunctional compounds, polymers and compounds of biological importance. Spectroscopic analysis of organic com-

pounds is studied in some detail. 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.

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, Phys 2063, Math 2073.

3062 (2 hours)

Work Study

On-the-job training in chemistry in a local chemical industry, supervised by an industrial chemist in consultation with the student's academic advisor. Pass-fail only. Prerequisite: Junior standing.

3101 (1 hour)

Junior Seminar

A 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. Junior standing.

4013 (3 hours)

Qualitative Organic Analysis

Theory and practice of IR, NMR, UV and mass spectroscopy in the identification of organic compounds. Includes separation of mixtures and the preparation of derivatives of unknowns. Two lectures and three hours of laboratory per week. 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. 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, Math 2073. Prerequisite or Corequisite: Phys 2063.

4031 (1 hour)

Techniques of Instrumental Analysis

Laboratory experiments supplementing Chem 4033, for students majoring in disciplines other than chemistry. Prerequisite: Chem 3011. Corequisite: Chem 4033.

4033 (3 hours)

Instrumental Analysis

Overview of spectroscopic, chromatographic and electroanalytical techniques for chemical analysis. Three lectures per week. Prerequisites: Chem 3013. Corequisite: Chem 4031 or 4051.

4043 (3 hours)

Inorganic Chemistry

An introduction to the field of inorganic chemistry at an advanced level. Three lectures per week. Prerequisites: Chem 3021, 3023, 4021, 4023.

4051 (1 hour)

Instrumental Analysis Laboratory

Laboratory experiments supplementing Chem 4033, with emphasis on methods development. Chemistry majors only. Prerequisite: Chem 3011. Corequisite: Chem 4033.

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: Permission of instructor.

4091 (1 hour)

Polymer Chemistry Laboratory

Laboratory experiments in polymerization, molecular weight determination, structure-property relationships, and mechanical properties. Prerequisite or corequisite: Chem 4093.

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, 3033, or permission of instructor.

4101 (1 hour)**Inorganic Synthesis and Characterization**

A laboratory course involving synthesis and characterization of inorganic compounds. Three hours of laboratory per week. Prerequisite: Chem 2014.

4131 (1 hour)**Biochemistry I Laboratory**

Introduction to the isolation, identification, and reactions of biological materials. Three hours of laboratory per week. Prerequisite or corequisite: Chem 4133.

4133 (3 hours)**Biochemistry**

An introduction to the chemical aspects of biological systems with emphasis on structure and chemistry of carbohydrates, lipids, proteins, and nucleic acids. Prerequisites: Chem 3011, 3013.

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.

4213 (3 hours)**Medicinal Chemistry**

An 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.

4863 (3 hours)**Special Topics in Chemistry**

Presentation of special interest topics of an advanced nature.

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.

4962 (2 hours)**Senior Thesis**

Continuation of senior research project through the procedural to the interpretative phase, culminating in a bachelor's thesis. Prerequisite: Chem 4872.

4981-3 (1-3 hours)**Undergraduate Research**

Individual research projects under the direction of a faculty member. Prerequisite: Permission of instructor.

4991-3 (1-3 hours)**Independent Study**

Independent or group studies on special topics. Prerequisite: Permission.

Computer Sciences (Mathematical and Computer Sciences)

Chair

William A. Coberly

Associate Chair

Roger L. Wainwright

Professors

J. C. Diaz

Dale A. Schoenefeld

Sujeet Sheno

Roger L. Wainwright

Associate Professors

William A. Coberly

Rosanne F. Gamble

Sandip Sen

Assistant Professor

John C. Hale

The Department of Mathematical and Computer Sciences offers programs in mathematics, applied mathematics, computer science, and computer information systems (see Mathematics). The department also provides courses in mathematics, statistics and computer science to serve the needs of all students at the university.

The degree in computer science offers students a strong foundation in computer sciences and mathematics and emphasizes supporting study in the physical sciences. The computer information systems program offers students a strong foundation in computer science together with supporting subjects selected from professional business courses. The B.S. degree program in computer science is accredited by the Computer Science Accreditation Commission (CSAC) of the Computing Sciences Accreditation Board (CSAB), a specialized accrediting body recognized by the Council for Higher Education Accreditation (CHEA). Graduates of these programs should be well-prepared to pursue graduate study or industrial and business careers.

Minors 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, three computer science electives, of which, two must be at the 3000 level or higher. (CS 1013 may not be applied toward the computer science minor.)

Students from other disciplines may minor in computational sciences, consisting of 18-21 credits including CS 2503, CS 4353, Math 4123, Math 4503, CS/Math 4533. In addition, Math 4213 or 6 hours in a physical science or engineering discipline at the 4000 level must be taken.

A certificate program in computer science is also offered, as described on page ___ of this bulletin.

Computer Sciences Requirements

Computer Sciences.....	43
CS 1043, Introduction to Programming and Problem-Solving	
CS 1991, Introduction to Computer Science	
CS 2003, Fundamentals of Algorithm and Computer Applications	
CS 2033, Computer Architecture, Organization and Assembler	

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, Formal Methods of Software Design
 CS 4513, Software Engineering Projects
 Computer Science Electives (9 hours at 3000 level or above approved by advisor)

Mathematics.....23
 Math 2014, 2024, 2073, Calculus I, II, III
 Math 3073, Differential Equations,
 or
 Math 4123, Linear Algebra and Matrix Theory
 Math 4503, Introduction to Numerical Methods
 Stat 3813, Statistical Methods for Scientists and Engineers
 Mathematics elective - 3000 level or above (3 hours)

Physical Sciences and Engineering.....19
 Phys 2053, 2063, General Physics I, II
 Phys 2051, 2061, General Physics Lab I, II
 EE 2163, 2161, Digital Systems Principles and Lab
 Science or Engineering Science Elective (7 hours)

Humanities Social Sciences, and English.....30
 Engl 1033, Exposition and Argumentation
 Engl 3003, Writing for the Professions
 Sp 2113, Public Speaking
 Tulsa Curriculum electives in Blocks I and II (21 hours)

Electives.....9
 Selected with approval of the student’s advisor.

TOTAL HOURS.....124

To become a candidate for a degree in computer sciences, a student must complete all computer science courses in the curriculum with a grade-point average of at least 2.0, and earn a 2.0 or better overall.

Computer Information Systems Requirements

Computer Sciences.....40
 CS 1043, Introduction to Programming and Problem-Solving
 CS 1991, Introduction to Computer Science
 CS 2003, Fundamentals of Algorithms and Computer Applications
 CS 2033, Computer Organization and Assembler
 CS 2123, Data Structures
 CS 3003, Comparative Programming Languages
 CS 3013, Discrete Mathematics
 CS 3053, Operating Systems
 CS 4163, Database Systems
 CS 4503, Formal Methods of Software Design

CS 4513, Senior Computer Science Project
 Computer Science Electives (9 hours at 3000 level or above approved by advisor)

Business.....21
 MIS 3053, Database Design, or MIS 4000 Elective
 MIS Electives at the 4000 level (9 credits)
 Acct 2113, Introduction to Financial Accounting
 Acct 2123, Introduction to Managerial Accounting
 Business elective (3 hours, 3000 level or above)

Mathematics..... 11
 Math 1164, Precalculus Mathematics
 Math 2014, Calculus I
 Stat 3813, Statistical Methods

General Education Requirements34
 Engl 1033, Exposition and Argumentation
 Engl 3003, Writing for the Professions
 Sp 2113, Public Speaking
 Tulsa Curriculum electives in Blocks I, II, and III (25 hours)

Electives.....18
 Selected with approval of the student’s advisor.

TOTAL HOURS.....124

*Some students will complete a modified series of courses. See Special Requirements, page 239, for details.

To become a candidate for a degree in computer information systems, a student must complete all computer science courses in the curriculum with a grade-point average of at least 2.0, and earn a 2.0 or better overall.

1013 (3 hours)
Introduction to Computer Applications
 Emphasis on functional computer literacy, application software (word processors, spreadsheets, presentation graphics, multimedia and web page design) and research techniques on the Internet. Topics include computers in the work place, computer security, individual privacy and ethics, and current issues related to computer technology in organizations and society. Lecture 3 hours. Lab 1 hour.

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 environ-

ment. Programming language is Java.

1991 (1 hour)
Introduction to Computer Science
 An overview introduction to the field of computer science.

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.

2033 (3 hours)**Computer Architecture, Organization and Assembler**

Introduction to computer hardware organization, instruction execution, and the 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.

2123 (3 hours)**Data Structures**

Basic concepts of data, lists, strings, arrays, B trees, AVL trees, hashing, and algorithm analysis. Representation of trees and graphs, storage systems and structures, storage allocation. Emphasis on various algorithm techniques. Students will write programs in C++ and Java. Prerequisite: CS 2003.

2163 (3 hours)**Computer Design, Organization, and Logic**

Boolean algebra, combinational circuits, truth tables, maps, minimization techniques. Sequenced circuits, stable and unstable states, state diagrams, and flow tables. Computer organization. Prerequisite: CS 2033. Credit is not given for both CS 2163 and EE 2163.

2503 (3 hours)**Scientific Programming**

Computational issues in science and engineering problem-solving. Computer implementation of models and numerical methods used in solving science and engineering problems. C++ programming on a UNIX workstation emphasized. Other computational and visualization tools are introduced. Network access to scientific libraries and data augments the computational environment. Corequisite: Math 2024. Prior programming experience helpful but not required.

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 1043.

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.

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, CS 2123.

3243 (3 hours)**Computer Applications Programming**

Windows programming. Languages of ANS1, 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. Prerequisites: CS 2003 or permission of instructor.

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 and CS 3003.

4063 (3 hours)**Computer Architecture**

Operating systems strategies and architecture features required to support them. Alternative

implementations. Survey of advanced topics in a variety modern computer and microprocessor architectures. Prerequisite: Computer Science 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 CS 3053.

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 and CS 3013.

4213 (3 hours)

Object-Oriented Software

Concepts and techniques of object-oriented software construction are motivated by improving quality, reusability, and extensibility. 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 moti-

ations 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 and CS 3013.

4323 (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 permission of instructor.

4333 (3 hours)

Network Programming

Modern computer networks and concurrent programming. Architecture of the Internet: hosts, routers and gateway protocols, and discussion of TCP/IP and Domain Name Service. Interprocess communication and synchronization on single and networked hosts as well as client-server programming. Computer network security issues. Implementation of communicating processes on a network. Prerequisite: CS 3053 or permission of instructor.

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. Prerequisite: CS 2503 or CS 3003, AND consent of instructor.

4413 (3 hours)

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

4423 (3 hours)**Information Systems 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. Prerequisites: CS 4153.

4503 (3 hours)**Software Specification and Design**

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 and CS 3013.

4513 (3 hours)**Software Engineering Projects**

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. Prerequisite: CS 4503, senior standing.

4533 (3 hours)**Scientific Software Environments**

Discusses case studies that illustrate the interplay of mathematical modeling, scientific com-

puting and applied sciences and engineering. Attention to high performance architectures, software engineering methodology for large scale codes, and visualization of large data sets. Emphasis on high performance computing science and engineering problems. Extensive use of electronic textbooks. Computer projects required. Prerequisites: Math 3073 and either CS 2503 or CS2003. Same as Math 4533.

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.

4863 (3 hours)**Special Topics in Computer Science****4971-3 (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.

4991-3 (1-3 hours)**Independent Study**

Electrical Engineering

Chair

Gerald R. Kane

Associate Professors

Peter G. LoPresti

Surendra Singh

Heng-Ming Tai

Professors

Kaveh Ashenayi

Marcus O. Durham

Gerald R. Kane

The Department of Electrical Engineering offers a curriculum leading to a B.S. degree. The curriculum includes a strong foundation in the electrical, system, computer, mathematical, and physical sciences. Upon successfully completing this curriculum, the electrical engineering graduate is prepared either to pursue further studies at the graduate level or to select from a wide variety of interesting and challenging professional employment opportunities.

Electrical Engineering Requirements

Mathematical Sciences.....	17
Math 2014, 2024, 2073, Calculus, I, II, and III	
Math 3073, Differential Equations	
Stat 4413, Probability I or	
Stat 3813, Statistical Methods	
Physical Sciences.....	15
Chem 1013, 1011, General Chemistry I and Lab	
Phys 2053, 2063, 2073, General Physics I, II, and III	
Phys 2051, 2061, General Physics Lab I and II	
Engineering Sciences.....	16
EE 2001, Basic Electrical Measurements Lab	
EE 2003, Electric Circuit Analysis	
An appropriately chosen mix of Thermodynamics, Statics, Dynamics and	
Electronic Properties of Materials	
ES 3083, Engineering Economics	
CS 1043, Introduction to Programming and Problem-Solving	
Professional Courses.....	37
EE 1001, Introduction to Electrical Engineering	
EE 1011, Computer Tools for Electrical Engineering	
EE 2063, Introduction to Computer Organization and Microprocessors	
EE 2163, 2161, Digital Systems Principles and Lab	
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 Lab	
EE 4053, Classical Control Theory and Applications	
EE 4073, Information and Communications Systems	
EE 4103, 4203, Electrical Engineering Design Project I and II	

Senior Technical Electives.....12

- EE 4123, Radio Frequency Engineering
- EE 4133, Power Systems Analysis
- EE 4143, VLSI Design
- EE 4153, Modern Control Systems
- EE 4173, Computer Networks
- EE 4213, Digital Signals Processing
- EE 4223, Antennas
- EE 4253, Digital Control Systems
- EE 4263, Microprocessors in Digital Design
- EE 4323, Electro-optics
- EE 4353, Robotics
- EE 4413, Introduction to Neural Networks

Choose four (4) of the above or three (3) of the above and an advanced mathematics, computer science, or engineering course with departmental approval.

Humanities, Social Sciences, and English24

Engl 1033 and 3003, Exposition and Argumentation, 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 and The University of 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 Electrical Engineering Department. 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, page 239, for details.

A student must complete each of the electrical engineering courses listed under the curriculum with at least a C and a 2.0 or better overall GPA in order to receive a degree in electrical engineering.

An innovative program involving study at Moscow Institute of Electronic Technology may be available. Technical instruction will be in English. The plan of study requires two additional hours in foreign language and summer school work. Whether or not the program is offered in a particular summer depends upon the existing international situation, foreign exchange rates, airfares, and student participation. The summer study period usually occurs between the sophomore and junior years. Students interested in this option should contact the department chair.

1001 (1 hour)

Introduction to Electrical Engineering

Laboratory and field studies of various electrical engineering practices such as telecommunication, power generation and delivery, computer networks, and industrial plant control and manufacturing.

1011 (1 hour)

Computer Tools for Electrical Engineers

Practical experience in the use of computer tools for electrical engineering including word processing, spread sheets, 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 multiloop and multinode circuits using the Laplace transform. Prerequisite: Phys 2063. Corequisite: Math 3073.

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. Prerequisite: A first programming course.

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. Prerequisites: EE 2063 and sophomore standing.

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. Corequisite: ES 3063.

4041 (1 hour)

Electronics Lab

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. Prerequisites: 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 3813 or 4413.

4103 (3 hours)**Electrical Engineering Design Project I**

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 prior to completion of EE 4103. 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**

CW and pulse response of transmission lines. Waveguide analysis and design. Antenna types and characteristics. Propagation of radio waves and transmission path analysis. Prerequisite: EE 3023.

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 and 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. Introduc-

tion to parameter identification, adaptive and optimal control systems. Prerequisite: EE 4053.

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 Engineering Design Project II**

A continuation of EE 4103. The plan of action is executed and a final engineering report is submitted prior to completion of EE 4203. Prerequisites: Senior standing in electrical engineering and permission of department chair.

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.

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.

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. Field trips to local industries to observe robotic systems in operation. Laboratory experiences using both open-loop and closed-loop robots. Prerequisite: EE 4053, or senior standing and corequisite EE 4053.

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 and Math 3073.

4991-3 (1-3 hours)

Independent Study

Independent or group studies on special topics. Prerequisite: Permission of department chair.

Engineering Sciences

Engineering science courses are taught by faculty from mechanical, chemical, petroleum, and 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.

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.

2023 (3 hours)

Dynamics

Kinematics and kinetics of particles, systems of particles, kinematics of rigid bodies, forces and acceleration, plane motion, energy and momentum methods. Prerequisite: ES 2013.

2053 (3 hours)

Introduction to Materials Properties

Forces, moments, stress, strain, deformation, torsion, and twist. Body and surface forces. Notions of elasticity and plasticity. Deflection in beams, constitutive equations, combined stresses, and applications to engineering design. Prerequisites: Math 2073, Phys 2053.

2503 (3 hours)

Scientific Programming

Computational issues in science and engineering problem solving. Computer implementation of models and numerical methods used in solving science and engineering problems. C++ programming on a UNIX workstation emphasized. Other computational and visualization tools are introduced. Network access to scientific libraries and data augments the computational environment. Corequisite: Math 2024. Prior programming experience helpful but not required.

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.

3013 (3 hours)

Materials Science

The properties of metals, alloys, semiconductors, ceramics and glasses, polymers, and composites discussed in terms of internal structure and processing. Specific materials and industrial applications. Prerequisites: Chem 1013, Phys 2063.

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 stress state. Mohr's circle, principal stresses and multiaxial strength analysis. Buckling and elastic stability. Design problems 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. Prerequisite: ES 3003 Co-requisites: ES 3003, Math 3073.

3083 (3 hours)

Engineering Economics

Economic aspects of engineering, including evaluating alternative courses of action. Re-

placement 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 2073.

Geosciences

Chair

Colin Barker

Professors

Colin Barker

Janet A. Haggerty

Peter J. Michael

Associate Professors

Steven J. Bellovich

Dennis R. Kerr

Christopher L. Liner

J. Bryan Tapp

Assistant Professors

Duryodhan Epili

The Department of Geosciences offers programs leading to either a B.S degree or a B.A. degree 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. Non-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:

- B.S. in Geosciences - Environmental Science Option

- B.S. in Geosciences - Geology Option

- B.S. in Geosciences - Geophysics Option

Minors in Petroleum Engineering and Computer Science are also available in the B.S. Degree Programs.

B.A. Degree Programs

The 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 professionally as geologists in the petroleum 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, and environmental policy, meteorology, or business.

B.A. Degree options include:

- B.A. in Earth and Environmental Science

- B.A. in Geology

Many geology courses require field trips, and a nominal fee over and above tuition will be assessed to cover field trip expenses.

Students seeking secondary teacher certification in earth sciences must also complete requirements for a second major in education (pages 100-105). In addition, teacher certification requires proficiency in a second language at the novice level (page 105).

Degree Programs

B.S. Geology

Mathematical Sciences.....	14
Math 2014, 2024, 2073, Calculus I, II, III	
CS 2503, Scientific Programming	
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 II, and Lab	
Geology.....	41
Geol 1014, Physical Geology	
Geol 1991, Introduction to the Geosciences	
One of the following five:	
Geol 1003, Oceanography	
Geol 1043, Geology of the National Parks	
Geol 2053, Earth Resources	
Geol 2063, Geologic Hazards and Catastrophes	
Geog 2003, Introduction to Physical Geography	
Geol 2143, Mineralogy	
Geol 2003, History of the Biosphere	
Geol 3063, 3061, 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 2053, The Earth in Space	
Geosciences Elective (3 hours - 3000 level or above)	
Sciences, Mathematics, or Engineering Electives.....	18
Petroleum engineering, chemistry, physics, mathematics, or statistics.	
Selected with the approval of the student's advisor.	
General Electives.....	18
Selected with the approval of the student's advisor.	
Humanities, Social Sciences, and English.....	24
Engl 1033 and 3003, Exposition and Argumentation, 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, 239, for details.

For calculating grade averages, major courses are all geology, geography, and geophysics courses. Must earn 2.0 in major and overall to graduate.

Geology Major/Environmental Option

Mathematical Sciences.....	14
Math 2014, 2024, Calculus I, II	
Stat 2013, Introduction to Statistics	
CS 2503, Scientific Programming	
Basic Sciences.....	23
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	
Biol 1054, Cellular Biology	
Geoscience Professional Courses	63
Geol 1003, Oceanography	
Geol 1014, Physical Geology	
Geol 1991, Introduction to the Geosciences	
Geol 2063, Geological Hazards and Catastrophes	
Geol 2143, Mineralogy	
Geol 2003, History of the Biosphere	
Geol 3063, 3061, 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	
Geol 4533, Microanalysis	
Geog 2003, Physical Geography	
Geog 3053, Geomorphology	
Gphy 4513, Environmental Geophysics	
ChE 4163, Environmental Engineering	
PE 2112, Rock Properties	
Geosciences Elective (3 hours)	
Technical Electives.....	3
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 Elective.....	3
Humanities, Social Sciences, and English.....	24
Engl 1033 and 3003, Exposition and Argumentation, 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, page 239 for details.

For calculating grade averages, major courses are all those listed under the heading Geosciences Professional Courses. Must earn 2.0 in major and overall to graduate.

Geology Major/Geophysics Option

Mathematical Sciences.....23
 Math 2014, 2024, 2073, Calculus I, II, III
 Math 3073, Differential Equations
 Math 4123, Linear Algebra and Matrix Theory
 Math 4133, Introduction to Complex Functions
 Math 4143, Introduction to Partial Differential Equations
 Computer Sciences.....9
 CS 1043, Introduction to Programming and Problem-Solving
 CS 2003, Fundamentals of Algorithms and Computer Applications
 CS 2123, Data Structures
 If no computer experience, it is recommended that the student enroll in CS 2503 first and apply this course as an engineering elective.
 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
 Technical Electives.....11
 Any course within the College of Engineering and Natural Sciences, selected with approval of student’s advisor.
 Geology-Geophysics.....33
 Geol 1014, Physical Geology
 Geol 1991, Introduction to the Geosciences
 One of the following:
 Geol 1003, Oceanography
 Geol 1043, Geology of the National Parks
 Geol 2053, Earth Resources
 Geol 2063, Geologic Hazards and Catastrophes
 Geog 2003, Introduction to Physical Geography
 Geol 3063, 3061, Structural Geology and Lab
 Geol 3153, Sedimentary Rocks and Processes
 Geol 4063, Petroleum Geology
 Gphy 2053, The Earth in Space
 Gphy 4003, Exploration Geophysics
 Gphy 4033, Signal Processing I
 Gphy 4043, Signal Processing II
 Gphy 4063, Well Logging for Geologists and Geophysicists
 General Electives.....15
 Selected with the approval of the student’s advisor.
 Humanities, Social Sciences, and English.....24
 Engl 1033 and 3003, Exposition and Argumentation, 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, page 239, for details.

For calculating grade averages, major courses are all geology and geophysics courses. Must earn 2.0 in major and overall to graduate.

Geology Major/Petroleum Engineering Minor

Mathematical Sciences.....17
 Math 2014, 2024, 2073, Calculus I, II, III
 Math 3073, Differential Equations
 CS 2503, Scientific Programming

Chemistry.....8
 Chem 1013, 1023, General Chemistry I, II
 Chem 1011, 1021, General Chemistry Labs I, II

Physics.....8
 Phys 2053, 2063, General Physics I, II
 Phys 2051, 2061, General Physics Lab I, II

Geoscience Core38
 Geol 1014, Physical Geology
 Geol 1991, Introduction to the Geosciences
 Geol 2143, Mineralogy
 Geol 2003, History of the Biosphere
 Geol 3063, 3061, Structural Geology and Lab
 Geol 3153, 3151, Sedimentary Rocks and Processes and Lab
 Geol 4016, Field Geology
 Geol 4063, Petroleum Geology
 Geol 4144, Igneous and Metamorphic Rocks and Processes
 Geog 3053, Geomorphology
 Gphy 2053, The Earth in Space

Petroleum Core21
 ES 3003, Introductory Fluid Mechanics
 ES 3053, Thermodynamics
 PE 2101, Rock and Fluid Properties Lab
 PE 2112, Rock Properties
 PE 2123, Fluid Properties
 PE 3023, Reservoir Engineering I
 PE 4013, Petroleum Economics and Property Evaluation
 PE 4053, Formation Evaluation

Technical Electives.....11
 Geosciences, petroleum engineering, chemistry, physics, mathematics or statistics. Must be selected with the approval of the student’s advisor.

General Elective.....6

Humanities, Social Sciences, and English.....24
 Engl 1033 and 3003, Exposition and Argumentation, 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..... 133

*Some students will complete a modified series of courses. See Special Requirements, page 239, for details. Must earn 2.0 in major (all of geoscience and petroleum core courses) and overall to graduate.

Geology Major/Geophysics Option with a Computer Science Minor

Mathematical Sciences.....	23
Math 2014, 2024, 2073, Calculus I, II, III	
Math 3073, Differential Equations	
Math 4123, Linear Algebra and Matrix Theory	
Math 4133, Introduction to Complex Functions	
Math 4143, Introduction to Partial Differential Equations	
Chemistry.....	8
Chem 1013, 1023, General Chemistry I, II	
Chem 1011, 1021, General Chemistry Labs I, II	
Physics.....	11
Phys 2053, 2063, 2073, General Physics I, II, III	
Phys 2051, 2061, General Physics Lab I, II	
Geosciences Core.....	36
Geol 1014, Physical Geology	
Geol 1991, Introduction to the Geosciences	
Geol 2003, History of the Biosphere	
Geol 3063, 3061, Structural Geology and Lab	
Geol 3153, Sedimentary Rocks and Processes	
Geol 4063, Petroleum Geology	
Gphy 2053, The Earth in Space	
Gphy 4003, Exploration Geophysics	
Gphy 4033, Signal Processing I	
Gphy 4043, Signal Processing II	
Gphy 4063, Well Logging for Geologists and Geophysicists	
Geoscience Elective (3 hours - 3000 level or above)	
Computer Science Core.....	18
CS 1043, Introduction to Programming and Problem-Solving	
CS 2003, Fundamentals of Algorithms and Computer Applications	
CS 2033, Computer Architecture, Organization and Assembler	
CS 2123, Data Structures	
CS 4613, Fundamentals of Computer Graphics	
Computer Science Elective 3 hours (must be 3000 level or above)	
If no computer experience, it is recommended that student take CS 2503 to be credited under engineering electives.	
Technical Electives.....	8
All courses within the College of Engineering and Natural Sciences selected with approval of student’s advisor.	
General Elective.....	3
Humanities, Social Sciences, and English.....	24
Engl 1033 and 3003, Exposition and Argumentation, 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, page 239, for details. Must earn 2.0 in major (all geoscience and computer core courses) and overall to graduate.

B.A. Earth and Environmental Sciences**Required Geoscience Courses**

Geol 1014, Physical Geology.....	4
Geol 2053, Earth Resources.....	3
Geol 2153, Mineralogy.....	3
Geol 2003, History of the Biosphere.....	3
Geol 3573, Environmental Geology.....	3
Geol 4523, Environmental Geochemistry.....	3

Plus two additional geosciences courses out of the following list:

Geol 1003, Introduction to Oceanography.....	3
Geog 2003, Introduction to Physical Geography.....	3
Geol 1043, Geology of National Parks.....	3
Geol 2063, Geological Hazards and Catastrophes.....	3

Plus three additional geosciences courses out of the following list:

Geog 3053, Geomorphology.....	3
Gphy 4513, Environmental Geophysics.....	3
Geol 3153, Sedimentary Rocks and Processes.....	3
Geol 4513, Hydrogeology.....	3
Geol 4563, Special Topics.....	3

TOTAL HOURS.....34

Minor Field Courses

Chem 1013, General Chemistry I.....	3
Chem 1011, General Chemistry I Lab.....	1
Phys 1013, Introductory Physics I.....	3
Biol 1604, Biological Diversity.....	4
Biol 2073, Environmental Biology.....	3
or	
Stat 2013, Introduction to Statistics.....	3
Soc 3143, Environmental Sociology.....	3
Soc 4143, Global Environmental Issues.....	3
or	
Pol 4513, Topics in Public Policy: The Environment.....	3

TOTAL HOURS.....13

Note: In the earth and environmental science degree, Chemistry 1013 and 1011 and Physics 1013 are to be taken as block courses and do not count toward the total required course hours in the minor field.

B.A. Geology**Major Subject**

Geol 1014, Physical Geology.....	4
Geol 2143, Mineralogy.....	3
Geol 2003, History of the Biosphere.....	3
Geol 3061, Structural Geology Lab.....	1
Geol 3063, Structural Geology.....	3

Gphy 2053, The Earth in Space.....	3
Geol 3151, Sedimentary Rocks and Processes Lab.....	1
Geol 3153, Sedimentary Rocks and Process	3
Geol 4016, Field Geology.....	6
Geol 4144, Igneous and Metamorphic Rocks and Processes.....	4
Geog 3053, Geomorphology.....	3
Plus one of the following four courses:	
Geol 1003, Oceanography.....	3
Geog 2003, Physical Geography.....	3
Geol 1043, Geology of National Parks.....	3
Geol 2063, Hazards and Catastrophes.....	3
TOTAL HOURS	37

Minor Field Courses

Chem 1013, General Chemistry I.....	3
Chem 1011, General Chemistry I Lab.....	1
Chem 1023, General Chemistry II.....	3
Chem 1021, General Chemistry II Lab.....	1
CS 2503, Scientific Programming*	3
Math 1064, Pre-Calculus Mathematics*.....	4
Math 2014, Calculus I.....	4
Math 2024, Calculus II.....	4
Phys 1013, Introductory Physics I.....	3
Phys 1011, Introductory Physics I Lab.....	1
Phys 1023, Introductory Physics II.....	3
Phys 1021, Introductory Physic II Lab.....	1
Electives (chosen with advisor’s approval). Must be at 3000-4000 level.	
TOTAL HOURS	37

*Some courses in the core and general curricula may be restricted. See the balance sheet in the college’s Advising Office for a detailed description of degree requirements.

Geography**1003 (3 hours)****Weather and Climate**

Introduction to meteorological phenomena. Large and small-scale phenomena such as fronts, the jet stream, high and low-pressure systems, hurricanes, thunderstorms, tornadoes, lightning, rainbows and snowflakes. Global climatology and evidence for/against global warming. Prerequisites: High school algebra and trigonometry.

2003 (3 hours)**Introduction to Physical Geography**

Introduction to the earth, seasons and time, weather, climate, soils, the earth's crust, and scenery.

3053 (3 hours)**Geomorphology**

Description, analysis, and interpretation of landforms on the earth's surface. Utilization of aerial photographs and topographic maps. Prerequisite: Geol 1013 or Geog 2003 and junior standing.

4861-6 (1-6 hours)**Special Topics in Geography****4991-4 (1-4 hours)****Independent Study**

Independent or group studies on special topics. Prerequisite: Permission of instructor.

Geology**1003 (3 hours)****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)**Introduction to Physical Geology**

The earth, 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 labora-

tory each week. If field trips are required, a nominal fee will be assessed to cover field-trip expenses.

1033 (3 hours)**Earth's Physical Environment**

Introduction to major issues in the earth sciences. Rocks and minerals, geologic time, plate tectonics, and fundamental processes that have shaped the earth and its environments. A physical science course for education majors. Class sessions feature field excursions and a hands-on, interactive approach based on the learning cycle.

1043 (3 hours)**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)**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)**Geological Hazards and Catastrophes**

Introduction to the origin, nature and prediction of both process-related hazards such as earth-

quakes, 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.

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 for which a nominal fee will be assessed. Prerequisites: 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, a nominal fee is required to cover part of the cost. 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. Prerequisite: Geol 1014.

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. Prerequisite: Geol 1014 or Geol 2003 and Jr. standing.

4016 (6 hours)

Field Geology

A six-credit-hour course in field geology is required for all geology majors. Students must take this course at another university since it is not now offered at The University of Tulsa. Acceptable courses include 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 should be required.

4033 (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; a fee is assessed to cover part of the cost. Prerequisites: Geol 3063, Geol 3153 and permission of instructor.

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, 3153.

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: Geog 2003 and Geol 1014, or equivalent;

CS 2503 or equivalent, senior standing or permission of instructor.

4093 (3 hours)**Geochemistry**

Chemical principles that govern the distribution of elements among the atmosphere, hydrosphere, and solid earth. Prerequisites: Geol 1014, Chem 1023.

4144 (4 hours)**Igneous and Metamorphic Rocks and Processes**

Important 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. A nominal fee is assessed for any field trips. 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. Prerequisites or corequisites: Geol 3153 or permission of instructor.

4313 (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 Geol 3153 or permission of instructor.

4403(3 hours)**Geotectonics**

Seminar covering global tectonics, structural associations and assemblages, petrologic associations and assemblages and the mechanics of plate motion and interaction. Field trip and term paper required. A nominal fee will be assessed for travel expenses. Prerequisites: Geol 3063, 3153, 4144; Math 2073; Phys 2063; 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: Sr. standing or permission of the instructor.

4533 (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.

4583 (3 hours)**Environmental Seminar**

Seminar stressing student presentation of environmentally significant topics. Prerequisite: Senior standing.

4861-6 (1-6 hours)**Special Topics in Geology****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.

4991-4 (1-4 hours)**Independent Study**

Independent or group studies on special topics. Prerequisites: Permission of instructor and at least a B average.

Geophysics**2053 (3 hours)****The Earth in Space**

An overview of the earth as a planet and member of the solar system. Topics include the earth-

moon system, solar wind and geomagnetism, large-scale composition and structure of the earth and similar planets, seismology and planetary interiors.

4003 (3 hours)

Exploration Geophysics

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: Gphy 2053, Math 2024, or permission of instructor.

4023 (3 hours)

Reservoir Geophysics

Detailed study of theory and application of geophysical methods for reservoir characterization. Includes basic geophysics, velocity, fluid and rock properties; amplitude and direct hydrocarbon indication; seismic impedance inversion; seismic attributes; time lapse (4-D); tomography and crosswell methods; and VSP. Prerequisites: permission of instructor, Gphy 4003 is recommended, but not required.

4033 (3 hours)

Geophysical Signal Processing I

Fourier Transform theory in continuous and discrete time. Filter theory and the Z-transform, filter stability criteria, introduction to the wave equation. Prerequisites: Mathematics 4123, 4143. Corequisites: Math 4133, Gphy 4003.

4043 (3 hours)

Geophysical Signal Processing II

Deconvolution, FK techniques, optimum least-mean-square filter theory, waves in layered media, migration of seismic exploration data through the wave equation, robust filters. Prerequisite: Gphy 4033.

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. Emphasis given to case histories and interpretation. Prerequisites: Senior standing or permission of instructor.

4861-6 (1-6 hours)

Special Topics in Geophysics

4991-4 (1-4 hours)

Independent Study

Independent or group studies on special topics. Prerequisites: Permission and at least a B average.

Mathematics (Mathematical and Computer Sciences)

Chair

William A. Coberly

Professors

Thomas W. Cairns

J.C. Diaz

Dale R. Doty

Robert W. Lawless

Richard A. Redner

Albert C. Reynolds, Jr.

Dale A. Schoenefeld

Associate Professors

William A. Coberly

Peyton J. Cook

Kevin A. O'Neil

Shirley B. Pomeranz

Assistant Professor

Jeffrey L. Hensley

Applied Assistant Professor

Donna S. Farrior

Senior Instructors

Brenda J. Guthrie

Diane K. Van Nostrand

The Department of Mathematical and Computer Sciences offers programs in mathematics, applied mathematics, computer science, and computer information systems (see Computer Sciences). The department also provides courses in mathematics, statistics and computer science to serve the needs of all students at the University.

Both a B.A. and a 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 and liberal arts, whereas the B.S. program emphasizes supporting study in the physical sciences and computer science.

The B.S. in applied mathematics is offered with five options: computer sciences, engineering, environmental sciences, business, and education. Each student must select one option and meet its requirements. The options provide a field of application for the mathematics student. All options carry the same mathematics requirement but differ in required support 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. Satisfactory completion of courses in the business option should allow the completion of an M.B.A. with only one full year of graduate study.

The Department of Mathematical and Computer Sciences 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.

Teacher Certification

Teacher certification in mathematics can be obtained by meeting the degree requirements of the B.A. or B.S. degree in mathematics or the B.S. in applied mathematics and by meeting the requirements set by the School of Education (see pp. 100-105). Students are advised in professional education by the faculty of the School of Education and are advised in their major by the faculty of mathematical and computer sciences. Students seeking certification must demonstrate proficiency in a second language at the novice level (p. 105) and some mathematics electives may be specified.

Minors in Mathematical Sciences

Students from other disciplines may minor in mathematics. The minor consists of Calculus I and II together with at least 15 hours above Calculus II, including Math 3033. Neither Math 4333 nor Math 4373 may be used as part of the 15-hour requirement. Interested students should consult the mathematics department.

Students from other disciplines may also minor in computational sciences, which consists of 18-21 credits including: CS 2503, CS 4353, Math 4123, Math 4503, Math/CS 4533. In addition, Math 4213 or 6 hours in a physical science or engineering discipline at the 4000 level must be taken.

Mathematics Core

Mathematics.....	36
Math 1991, Introduction to Mathematics	
Math 2014, 2024, 2073, Calculus I, II, and III	
Math 3033, Fundamentals of Modern Mathematics	
Math 3073, Differential Equations	
Math 3553, Modern Algebra	
Math 4003, Advanced Calculus I	
Math 4123, Linear Algebra and Matrix Theory	
Math electives (9 hours) selected with the approval of the student’s advisor.	
Computer Science.....	3
CS 2503, Scientific Programming	
Humanities, Social Sciences, and English.....	21
Engl 1033, Exposition and Argumentation*	
Tulsa Curriculum requirements in Blocks I and II (18 hours)	
TOTAL HOURS.....	60

*Some students will complete a modified series of courses. See Special Requirements, page 239, for details.

B.S. with degree in Mathematics Requirements

Mathematics Core	60
First Seminar.....	3
Minor field (selected with the approval of the student’s advisor).....	12
Additional Mathematics Elective (3000 or above).....	3
Tulsa Curriculum Block III Courses	7-8
General Electives.....	38-39
TOTAL HOURS.....	124

B.A. with degree in Mathematics Requirements

Mathematics Core	60
First Seminar.....	3
Minor Field.....	12
Additional Mathematics Elective (3000 or above).....	3
Tulsa Curriculum Block III Courses	7-8
Foreign Language.....	14
General Electives.....	23-24
TOTAL HOURS.....	124

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 2.0 or better overall. Students in the B.A. degree program must also satisfy a Cultural Diversity and Gender Studies requirement of two courses.

B.S. in Applied Mathematics Requirements

Mathematics Core	60
Engl 3003, Writing for the Professions	3
Math 4503, Introduction to Numerical Methods.....	3
Stat 3813, Statistical Methods for Scientists and Engineers	
or	
Stat 4413, Probability I.....	3
Applied Mathematics Option.....	55
TOTAL HOURS.....	124

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 2.0 or better 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	
CS 4533, Scientific Software Environments	
Computer science electives (9 hours), at least two 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 Sciences.....	11
Chem 1013, 1011, General Chemistry I and Lab	
Phys 2053, 2063, General Physics I, II	
Phys 2051, General Physics Lab I	
Engineering Sciences and Engineering.....	25
EE 2001, Basic Electrical Measurements Lab	
EE 2003, Electric Circuit Analysis	
ES 2013, 2023, Statics, Dynamics	
ES 3023, Mechanics of Materials	
ES 3053, Thermodynamics	
Engineering sciences 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

Environmental Sciences Option

Basic Sciences.....	28
Biol 1504, The Biology of Populations	
Biol 3084, General Microbiology	
Chem 1013, 1011, General Chemistry I and Lab	
Chem 1023, 1021, General Chemistry II and Lab	
Chem 3013, 3011, Organic Chemistry and Lab	
Phys 2053, 2051, General Physics I and Lab	
Geol 1014, Physical Geology	
Environmental Science and Engineering.....	9
Chem 4053, Environmental Chemistry	
ChE 4163, Environmental Engineering	
Geol 4513, Hydrogeology	
General Electives (selected with advisor's approval).....	18
TOTAL HOURS.....	55

Business Option

Business Core.....	29
Acct 2113, 2123, Concepts of Accounting I and II	
Econ 2013, Macroeconomics	
Econ 2023, Microeconomics	
Business electives (selected with advisor's approval)	
Tulsa Curriculum Block III Courses.....	7-8
General Electives (selected with the approval of student's advisor).....	18-19
TOTAL HOURS.....	55

Education Option

Professional Education.....	31
Educ 1101, Introduction to Education	
Educ 2104, Foundations of Education	
Educ 3713, The Child/Adolescent and the Learning Environment	
Educ 3733, Evaluation in Education	
Educ 4013, Education of the Exceptional Child	
Math 4333, Teaching Methods for Mathematics	
Educ 4221, Field Experience	
Educ 4616, Student Teaching in Middle School*	
Educ 4616, Student Teaching in Senior High School*	
Educ 4971, Seminar in Student Teaching	

*Students enroll in twelve semester hours of student teaching

Tulsa Curriculum Block III Courses.....	7-8
General Electives (selected with the approval of student's advisor).....	16-17
TOTAL HOURS.....	55

1053 (3 hours)**College Algebra**

Linear and quadratic equations, properties of exponents, factoring, graphing, functions including logarithmic and exponential functions, and inequalities. Advisors may require this course as a prerequisite to Math 1083, 1093, or 1164.

1083 (3 hours)**Contemporary Mathematics**

Quantitative topics from fields such as mathematical analysis, discrete mathematics, and statistics are applied to contemporary social, medical, and physical problems. Prerequisite: 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**

For students of business and the social and life sciences. Sets and functions, systems of equations, matrices, mathematics of finance, and an introduction to linear programming. 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, and an introduction to differential and integral calculus. Prerequisite: Math 1093.

1164 (4 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. Check with advisor to determine whether this course can be taken for credit in your degree program. Prerequisites: Equivalent of two years high school algebra and one year plane geometry and a passing score on the ACT, or the university mathematics placement examination, or Math 1053.

1991 (1 hour)**Introduction to Mathematics**

An overview and introduction to the field of mathematics.

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 1164 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 and 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**

Continuation of Math 2024. Vector geometry and calculus, functions of several variables, partial and directional derivatives, double and triple integrals, line and surface integrals and divergence, and Green's theorems. 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 2024 or permission of instructor. Same as CS 3013.

3033 (3 hours)**Fundamentals of Modern Mathematics**

Introduction to mathematical logic, sets, relations, functions, and cardinality. Introduction to theorem proving. Prerequisite: Math 2024.

3063 (3 hours)

Introduction to Number Theory

Divisibility, congruences, residues, diophantine equations; combinatoric and number theoretic functions, inversion; prime numbers; applications to cryptography, pseudo random numbers and science. Prerequisites: Math 3033.

3073 (3 hours)

Differential Equations

First, second, and higher order equations, operators, linear algebra, systems of differential equations, applications to science and engineering, and numerical solutions. Prerequisite: Math 2024.

3513 (3 hours)

Higher Geometry

Topics in Euclidean and Non-Euclidean Geometry. Recommended for prospective secondary math teachers. Prerequisites: Math 3033.

3553 (3 hours)

Modern Algebra

Basic algebraic concepts and systems including a rigorous development of the real number system. Prerequisite: Math 3033 or permission of instructor.

Math 3973 (3 hours)

Seminar in Mathematics

Offered for selected students who show promise of advanced work at the undergraduate level. Topics leading to research and preparation for graduate work will be considered. Prerequisite: permission of instructor.

4003 (3 hours)

Advanced Calculus I

Rigorous review of elementary calculus, real number system, continuous functions, Taylor's formula, infinite series, convergence criteria. Prerequisites: Math 3033, 3073.

4013 (3 hours)

Advanced Calculus II

Coordinate transformations, vectors, multiple integrals, Green's theorem, theory of integration, Fourier series. 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, 3033 or permission of instructor.

4083 (3 hours)

Introduction to Topology

Introduction to point-set topology. Sets, Cartesian products, relations, mappings, sequences, topological spaces, metric spaces. Prerequisite: Math 3033.

4123 (3 hours)

Linear Algebra and Matrix Theory

Systems of linear equations, eigenvalues, eigenvectors, finite dimensional vector spaces, and linear transformations with applications. Computational tools are used extensively. Prerequisite: Math 2024.

4133 (3 hours)

Introduction to Complex Functions

Algebra of complex numbers. Properties of complex functions, derivatives, complex integrals, Cauchy's integral formula. Conformal mapping with applications to potential theory. Prerequisite: Math 2073.

4143 (3 hours)

Introduction to Partial Differential Equations

Continuation of Math 3073. Green's Theorems, Fourier series, Laplace transforms, partial differential equations, including boundary conditions, exact solutions, classification of equations, separation of variables, and solutions by transformation 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.

4333 (3 hours)

Teaching Methods for Mathematics

Methods for teaching problem-solving, study of the National Council of Teachers of Mathematics professional, curriculum, and evaluation standards. Required for prospective teachers of secondary mathematics. Prerequisite: Math 2014 or permission of instructor.

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, Math 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 3073, CS 2503 or permission of instructor.

Math 4533 (3 hours)**Scientific Software Environments**

Selected case studies from science and engineering are used to discuss the interplay of mathematical modeling, scientific computing, and the applied sciences and engineering. Issues of high performance architecture, software engineering methodology for large scale codes, and visualization of large data sets are discussed. Prerequisites: Math 3073 and either CS 2503 or CS 2003. Same as CS 4533.

4863 (3 hours)**Special Topics in Mathematics****4871-3 (1-3 hours)**

Research and Mathematical Literature

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.

4991-3 (1-3 hours)**Independent Study**

Independent or group studies on special topics. Prerequisite: Permission.

Statistics**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. (No credit for Engineering and Natural Sciences students.)

3813 (3 hours)**Statistical Methods for Scientists and Engineers**

Elementary probability, random variables and distributions, tests of significance, test of hypotheses, elementary experimental design, simple regression, and correlation. Prerequisite: Math 2014.

4413 (3 hours)**Probability**

Introduction to probability theory. Probability spaces, random variables, distribution functions, expectation, conditional probability, and conditional expectation. Prerequisite: Math 2073.

4861-3 (1-3 hours)

Selected Topics in Probability and Statistics
May be repeated for credit. Prerequisite: Permission of instructor.

4871-3 (1-3 hours)**Research and Statistics Literature****4991-3 (1-3 hours)****Independent Study**

Independent or group studies on special topics. Prerequisite: Permission.

Mechanical Engineering

Chair

Edmund F. Rybicki

Professors

Edmund F. Rybicki

John R. Shadley

Steven M. Tipton

Associate Professors

John M. Henshaw

Siamack A. Shirazi

James R. Sorem, Jr.

Assistant Professors

Brenton S. McLaury

Ram S. Mohan

Dale E. Schinstock

The Department of Mechanical Engineering’s curriculum leads to a B.S. degree.

The goal of the program is to provide a high-quality education that prepares students for responsible and productive careers and for life-long learning. Consistent with this goal are several objectives. Mechanical Engineering graduates 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 skills.
- Strong communication and teamwork skills.
- A commitment to life-long learning needed to perform responsibly and ethically as an active engineering professional or other productive member of society.

Mechanical Engineering Requirements

Mathematical Sciences.....	20
Math 2014, 2024, 2073, Calculus I, II, and III	
Math 3073, Differential Equations	
Math elective, one course beyond Differential Equations (3 hours)	
CS 2503, Scientific Programming	
Physical Sciences.....	15
Chem 1013, 1011, General Chemistry I and Lab	
Phys 2053 and 2063, General Physics I and II	
Phys 2051 and 2061, General Physics Lab I and II	
Three hours to be selected from Phys 2073, 4003, 4073, or Chem 1023	
Engineering Sciences.....	25
EE 2001, Basic Electrical Measurements Lab	
EE 2003, Electric Circuit Analysis	
ES 2013, Statics	
ES 2023, Dynamics	

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.....43
 ME 1212, Mechanical Engineering Graphics
 ME 1311, To Be a Mechanical Engineer
 ME 1312, Microcomputer Fundamentals for the Mechanical Engineer
 ME 3014, Thermofluids
 ME 3034, Properties of Materials
 ME 3043, Energy Conversion
 ME 3053, Instrumentation and Measurements
 ME 3063, Manufacturing Processes
 ME 3212, Mechanisms
 ME 4024, Machine Dynamics and Lab
 ME 4053, Mechanical Control Design
 ME 4293, Interdisciplinary Design Projects
 ME 4383, Mechanical Engineering Design
 Mechanical Engineering Electives (6 hours)
 General Elective..... 3
 Humanities, Social Sciences, and English.....24
 Engl 1033 and 3003, Exposition and Argumentation, 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 HOURS.....130
 *Some students will complete a modified series of courses. See Special Requirements, page 239, for details.

A student must earn a grade point average of at least a 2.0 in the major (the above professional courses) and overall to receive a degree in mechanical engineering.

1212 (2 hours)
Mechanical Engineering Graphics
 Methods of graphical communication in engineering. Drafting technique, orthographic projections, sketching, blueprint reading and computer-aided drawing. 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 sever-

al topics including design, engineering software, manufacturing, materials and cost analysis.

1312 (2 hours)
Microcomputer Fundamentals for the Mechanical Engineer
 Microcomputer usage in the mechanical engineering profession. Introductory level usage and theory of operating systems, spreadsheets, high-level language programming, and text editing. Computer-based problem solving with emphasis on Mechanical Engineering applications.

3014 (4 hours)**Thermofluids**

Theoretical and experimental analysis of the mechanics and thermodynamics of flowing fluids. Applications to the design of pipe flow systems, turbomachinery and heat exchangers. Three hours lecture and three hours laboratory per week. Prerequisites: ES 3003, 3073, ME 3053.

3034 (4 hours)**Properties of Materials**

The 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. Three hours lecture and three hours laboratory per week. Prerequisite: ES 3023. Corequisites: ME 3053, Engl 3003.

3043 (3 hours)**Energy Conversion**

Performance and design considerations of energy conversion systems. Design and performance problems involving steam, gas turbine, and combined cycle power plants, and reciprocating and rotary engines. Prerequisite: ES 3053.

3053 (3 hours)**Instrumentation and Measurements**

Statistics of large samples applied to response of instruments to fixed inputs, dynamic response of zero, first and second order instruments. Analysis of experimental uncertainty. Linear and non-linear least squares. Data acquisition. Design of experiments and laboratory safety. Selection of instruments for experiments. Informal and formal report writing. Prerequisite: ME 1312. Corequisites: EE 2001, 2003.

3063 (3 hours)**Manufacturing Processes**

Basic understanding of a broad range 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. Computer integrated manufacturing. Prerequisites: ES 2023, 3023. Corequisite: ME 3034 or permission of instructor.

3212 (2 hours)**Mechanisms**

Kinematics of mechanical devices. Displacement, velocity and acceleration of linkages, cams, and gear trains. An introduction to synthesis. Design and computer problems. Prerequisites: ES 2023, ME 1312.

4024 (4 hours)**Machine Dynamics**

Kinematic and force analysis of machine and machine elements. Vibration isolation, balancing, critical speed, flywheel design, and dynamic measurement. Design and computer problems. Design and computer problems. Three hours lecture and three hours laboratory per week. Prerequisite: ME 3212.

4043 (3 hours)**Automotive Design**

Fundamentals of performance, efficiency, suspension and handling, powertrains, and environmental impact of the modern automobile. Each student will apply these fundamentals to the current TU design-and-build car project, with emphasis on design, fabrication, testing, and teamwork. Prerequisite: Senior standing or permission of instructor.

4053 (3 hours)**Mechanical Control Systems**

Feedback control of mechanical systems. Emphasis on thermal, fluid, and motion systems under feedback control. Classical control topics including Laplace transforms, system modeling, stability theory, s-plane and root-locus and/or frequency-based design. Practical applications to professional practice. Prerequisites: Math 3073, ME 3053 and 4024.

4083 (3 hours)**Advanced Mechanics of Materials**

Multiaxial failure criteria. Energy methods, elastic deflection, statically indeterminate structures. Torsion and bending. Shear center. Curved beams. Flat plates. Thick-walled cylinders. Stress concentrations. Contact stresses. Implementation of analysis into design applications

emphasized with case studies. 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. Machine monitoring systems. Prerequisite: ME 4024.

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, design trade-offs, safety, project planning, budgeting, marketing, patenting, aesthetics, and manufacturing. Emphasis on teamwork and oral presentations of progress. Prerequisite: ME 4383 or EE 4043 or Phys 3122.

4313 (3 hours)**Mechatronics in Manufacturing**

Introduction to mechatronics, application of computer control systems for machines and manufacturing processes. Elements of system modeling, discrete controller design, survey of digital theory, data acquisition, power and computer interfacing, instrumentation design and actuation processes. Case studies of manufacturing-oriented problems. Prerequisites: Junior or senior standing and ME 3053 and 4053 or permission of instructor.

4323 (3 hours)**Quality Control and Manufacturing Technology**

Survey of manufacturing processes: casting, molding, machining, and others. Computer integrated manufacturing including design for manufacturing and real-time process control. Emphasis on statistical methods and quality control applications in manufacturing. Prerequisite: Senior standing 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 thermodynam-

ics 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, 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/Manufacturing**

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 4024, ME 1212.

4383 (3 hours)**Mechanical Engineering Design**

Application of engineering design process to the design of mechanical components, systems, and machines. Problem-solving techniques, ethics, patents, entrepreneurship. Prerequisites: ME 3034, 3053, 3212.

4861-3 (3 hours)**Special Topics in Design**

Topics of current interest in mechanical engineering design. Prerequisite: Junior or senior standing or permission of instructor.

4991-3 (1-3 hours)**Independent Study**

Independent or group studies on special topics. Prerequisite: Permission of instructor.

Petroleum Engineering

Chair

Stefan Miska

Professors

Jamal J. Azar

James P. Brill

Balmohan Kelkar

Stefan Miska

Albert C. Reynolds, Jr.

Ovadia Shoham

Associate Professors

Dean Oliver

Leslie G. Thompson

Visiting Assistant Professors

Mauricio G. Prado

Turhan Yildiz

The Department of Petroleum Engineering offers a curriculum leading to the B.S. degree. The program provides 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. The student is required to develop the ability to analyze, synthesize, and design open-ended petroleum engineering systems, to understand the associated uncertainties, and to evaluate the economic impact. The student is expected to develop the necessary computer skills to solve these problems. The basic 137-credit-hour curriculum is sufficiently flexible to allow a student to obtain a minor in geosciences or mathematics, or in chemical, environmental, or mechanical engineering with a few additional courses.

Petroleum Engineering Requirements

Mathematical Sciences.....	17
Math 2014, 2024, 2073, Calculus I, II, III	
Math 3073, Differential Equations	
Stat 3813, Statistical Methods for Scientists and Engineers	
Physical Sciences.....	21
Chem 1013, 1011, General Chemistry I and Lab	
Phys 2053, 2063, General Physics I, II	
Phys 2051, General Physics I Lab	
Geol 1014, Physical Geology	
Geol 3153, Sedimentary Rocks and Process	
Geol 4063, Petroleum Geology	
Engineering Sciences.....	24
EE 2003, Electric Circuit Analysis	
ES 2013, Statics	
ES 2023, Dynamics	
ES 2503, Scientific Programming	
ES 3003, Introductory Fluid Mechanics	
ES 3023, Mechanics of Materials	
ES 3053, Thermodynamics	
ES 3073, Heat Transfer	

Petroleum Engineering Professional Courses.....39

PE 1001, Introduction to Petroleum Engineering

PE 2101, Rock and Fluid Properties Lab

PE 2112, Rock Properties

PE 2123, Fluid Properties

PE 3023, Reservoir Engineering I

PE 3041, Drilling Lab

PE 3043, Drilling Engineering I

PE 3073, Production Engineering I

PE 4013, Petroleum Economics and Property Evaluation

PE 4043, Drilling Engineering II

PE 4053, Formation Evaluation

PE 4063, Well Completion Design

PE 4073, Production Engineering II

PE 4071, Production Engineering Lab

PE 4113, Reservoir Engineering II

PE 4983, Capstone Design

Petroleum Engineering Electives.....3

Restricted to 3000- or 4000-level petroleum engineering courses.

Technical Electives.....6

Restricted to technical electives as approved by student’s advisor.

General Elective.....3

Humanities, Social Sciences, and English.....24

English 1033 and 3003, Exposition and Argumentation, 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. These courses must demonstrate depth of study in at least one area rather than be simply a series of introductory courses.

TOTAL HOURS.....138

*Some students will complete a modified series of courses; See Special Requirements, page 239, for details.

A student must earn a grade point average of 2.0 or better in the major (all petroleum engineering courses) and overall to be a candidate for a degree in petroleum engineering.

1001 (1 hour)
Introduction to Petroleum Engineering
 Exposure to various disciplines within petroleum engineering including drilling, production, and reservoir engineering; professionalism and ethics in petroleum engineering.

2101 (1 hour)
Rock and Fluid Properties Lab
 Experiments relating to rock and fluid properties: porosity, absolute and effective permeabilities, and fluid saturations, and use of P.C. computers. Reservoir fluid measurements (PVT) to

obtain gas-oil ratios, formation volume factors, Z factors, etc. Pre-requisites: PE 2112, 2123.

2112 (2 hours)
Rock Properties
 Fundamental properties of petroleum reservoir rocks: porosity and permeability, and fluid saturation. Properties of porous media containing multiple fluid saturation: relative permeability and capillary pressure. Prerequisites: Geol 1014, Phys 2053. Corequisite: Math 3073.

2123 (3 hours)

Fluid Properties

Petroleum fluid properties: natural gas, crude oil, and water properties. Phase behavior of hydrocarbon systems and equations of state. Prerequisites: Phys 2053, Chem 1013. Corequisite: Math 3073.

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 2112, 2123.

3033 (3 hours)

Natural Gas Engineering

Gas properties, vapor-liquid equilibrium, gas and gas condensate reservoirs, gas compression, processing and transportation, gas metering, and flow of gas and liquids in pipes. Prerequisite: PE 3023.

3041 (1 hour)

Drilling Lab

Drilling Simulator Lab: controls, operations, data acquisition, hydraulics, kick control, rate of penetration vs. drilling 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, 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 pipe, components of production system, and integration of system components for production system analysis and optimization. Prerequisites: ES 3003, PE 3023.

4013 (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. Prerequisite: PE 2112, 2123 or permission of instructor.

4043 (3 hours)

Drilling Engineering II

Directional drilling mechanics, drill bit mechanics, drillstring mechanics, well bore mechanics, Pore and fracture pressure predictions, drilling problems, well planning. Prerequisite: PE 3043.

4053 (3 hours)

Formation Evaluation

Electrical, acoustic, and radioactive properties of rocks. Introduction to well logging theory and interpretation of subsurface logs, and computer logs. Prerequisites: Geol 3153, PE 2112, 2123, Phys 2063.

4063 (3 hours)

Well Completion Design

Casing program, casing and tubing design, principles of cementing, completion added skin, well perforating, hydraulic fracturing and acidizing. Prerequisites: PE 3023, 3043.

4071 (1 hour)

Production Lab

Laboratory experiments on metering, multiphase flow in pipes and separation. Corequisite: PE 4073.

4073 (3 hours)

Production Engineering II

Surface processing of natural gas and crude oil; artificial lift methods including continuous and intermittent gas lift and sucker rod pumps. Prerequisite: PE 3073.

4083 (3 hours)

Design of Surface Facilities

Analysis, design, and application of production and processing equipment, including separation problems, treating, and transmission systems. Prerequisites: ES 3053 and permission of instructor.

4113 (3 hours)

Reservoir Engineering II

Oil trapping, fractional flow theory, areal and vertical sweep efficiencies, interaction of gravity, capillary and viscous forces on flood performance, application of reservoir simulation for design of waterflooding and gas injection projects and in predicting reservoir performance. Prerequisite: PE 3023.

4173 (3 hours)

Artificial Lift Methods

Theory, application, and design of the most important artificial lift methods, including gas lift, beam pumping, and electrical submersible pumping. Prerequisites: PE 3073.

4803 (3 hours)

Oilfield Environmental Engineering

Environmental problems occurring in exploration, drilling, production and transportation operations; oilfield environmental regulations and their impact on the industry; environmental oilfield risk assessment and management. Prerequisite: Permission of instructor.

4861-6 (1-6 hours)

Special Topics in Petroleum Engineering

4871-3 (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

Integrated approach to petroleum reservoir management, drilling, and production design projects. Geological and reservoir characterization. Formation evaluation. Reserves estimation. Reservoir modeling and simulation. Well drilling program. Well completion and stimulation design. Artificial lift applications. Production optimization. Pipeline and surface facility design. Field development strategies and options. Economic analysis, project risk/profitability. Application of petroleum engineering software. Prerequisite: last semester senior standing

4991-3 (1-3 hours)

Independent Study

Independent or group studies on special topics. Prerequisite: Permission of instructor.

Physics and Engineering Physics

Chair

Kenneth A. Kuenhold

Senior Instructor

Jerome D. McCoy

Professors

Roger N. Blais

W. Doyle Evans

Visiting Instructor

Shawn S. Jackson

Associate Professor

Kenneth A. Kuenhold

Visiting Laboratory Instructor and Curator

Omar Eugene Thompson

Assistant Professors

Scott A. Holmstrom

Saibal Mitra

Michael L. Wilson

The Department of Physics and Engineering Physics offers programs leading to the B.S. and B.A. degrees in physics, and to the B.S. in Engineering Physics degree. The B.A. and the B.S. degrees in physics provide the student with a sound foundation in physics and mathematics. The B.A. program encourages the study of languages and liberal arts, whereas the B.S. program emphasizes supporting study in mathematics and engineering. The engineering physics curriculum meets the demand in industry and research for engineers well trained in basic science. Through proper selection of engineering elective courses, students can emphasize any of the available engineering disciplines and still maintain the broad, fundamental, scientific background provided by physics. Such a program produces engineers who have the flexibility to adapt to changing technological requirements and the ability to make meaningful contributions to modern, interdisciplinary investigations.

Students seeking secondary teacher certification in physics must also complete requirements for a second major in education (pp. 100-105). In addition, teacher certification requires proficiency in a second language at the novice level (p. 105).

Minor in Physics

Students from all colleges may minor in physics. Such a minor consists of Phys 2053 and 2063 with their associated laboratories, Phys 2073, and at least six hours of physics at the 4000 level.

Physics Core

Physics	35
Phys 1991, 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 3023, Introduction to Electromagnetics	
or	
Phys 4063, Electricity and Magnetism	

Phys 3112, Physics Instrumentation Laboratory
 Phys 3122, Instrumental Methods Laboratory
 Phys 4003, Physical Mechanics
 Phys 4033, Quantum Mechanics I
 Phys 4043, Quantum Mechanics II
 Phys 4073, Electromagnetic Waves and Optics
 Phys 4102, 4201, Engineering Physics Project I and II
 or
 Phys 4983, Senior Thesis

Mathematical Sciences.....17
 Math 2014, 2024, 2073, Calculus I, II, and III
 Math 3073, Differential Equations
 Math 4123, Linear Algebra and Matrix Theory

Chemistry.....4
 Chem 1013, 1011, General Chemistry I and Lab

Computer Science3
 CS 2503, Scientific Programming

Humanities, Social Sciences, and English.....24
 Engl 1033 and 3003, Exposition and Argumentation, Writing for the Professions*
 Humanities and social science electives (18 hours); selections limited to courses that qualify as humanities or social science electives as defined by ABET accreditation criteria and meet 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.....83

*Some students will complete a modified series of courses. See Special Requirements, page 239, for details.

B.S. in Engineering Physics

Physics Core.....83

Required Engineering and Science Courses.....23
 Chem 1023, 1021, General Chemistry II and Lab
 EE 2001, Basic Electrical Measurements Lab
 EE 2003, Electric Circuit Analysis
 ES 2013, Statics
 ES 2023, Dynamics
 ES 3053, Thermodynamics
 ES 3063, Solid State Electronic Devices
 Math elective (4000 level)

Elective Engineering Courses.....18
 Selected with the approval of the student’s advisor to satisfy ABET accreditation criteria.

General Electives.....3
 Selected with the approval of the student’s advisor.

TOTAL HOURS.....127

To become a candidate for a B.S. in Engineering Physics, a student must complete all physics and engineering courses with a grade point average of at least 2.0 and earn a 2.0 or better overall.

B.S. in Physics

Physics Core.....	83
Required Engineering/Technical Courses.....	10
EE 2001, Basic Electrical Measurements	
EE 2003, Electric Circuit Analysis	
ES 2023, Dynamics	
ES 3053, Thermodynamics	
General Electives	31
Selected with the approval of the student's advisor.	
TOTAL HOURS.....	124

To become a candidate for a B.S. in Physics, a student must complete all physics courses with a grade point average of at least 2.0 and earn a 2.0 or better overall.

B.A. in Physics

Physics Core.....	83
Foreign Language	14
General Electives	27
Selected with the approval of the student's advisor.	
TOTAL HOURS.....	124

To become a candidate for a B.A. in Physics, a student must complete all physics courses with a grade point average of at least 2.0 and earn a 2.0 or better overall. Students in the B.A. program must also satisfy a Cultural Diversity and Gender Studies requirement of two courses.

1003 (3 hours)**The 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**

Quantitative experiments in mechanics, heat, and sound. Corequisite: Phys 1013.

1013 (3 hours)**Introductory Physics I**

Mechanics, heat, and wave motion. Primarily for students not majoring in engineering or applied sciences. Prerequisites: High school algebra and trigonometry or completion of Math 1164.

1021 (1 hour)**Introductory Physics Laboratory II**

Quantitative measurements 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. (Non-credit for engineering and applied sciences majors.)

1991 (1 hour)**The World of Physics**

Introduction to the profession, culture, and discipline of physics, and the facilities, faculty and current research at The University of Tulsa. Primarily for those either considering or intending to pursue a career in physics.

2051 (1 hour)**General Physics I Laboratory**

Experiments in mechanics, wave motion, and heat. Prerequisite or corequisite: Phys 2053. Prerequisite: Math 2014.

2053 (3 hours)**General Physics I**

Mechanics, wave motion, fluids, and thermodynamics. Primarily for science and engineering students. Prerequisite: Math 2014.

2061 (1 hour)**General Physics II Laboratory**

Experiments in magnetism, electricity, and light. Prerequisite or corequisite: Phys 2063. Prerequisite: Math 2024.

2063 (3 hours)**General Physics II**

Magnetism, electricity, and light. Continuation of Phys 2053. Prerequisites: Phys 2053 and Math 2024.

2071 (1 hour)**General Physics III Laboratory**

Three hours per week. Experiments in atomic, molecular, and nuclear physics; electrical, magnetic, and optical properties of materials; and laser physical optics. By permission of instructor only. 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. Prerequisites: Phys 2063.

3023 (3 hours)**Introduction to Electromagnetism**

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.

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 small project is included. Prerequisite: EE 2003, 2001.

3122 (2 hours)**Instrumentation Methods Laboratory**

Project and design sequence. Stresses design, evaluation, calibration, and application of electronic, optical, thermal, nuclear, and vacuum instrumentation. 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.

4003 (3 hours)**Physical 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: ES 2023, Math 3073, or permission of instructor.

4033 (3 hours)**Quantum Mechanics I**

Introductory quantum mechanics with emphasis on atomic phenomena and interaction of waves with matter. Prerequisite: Phys 2073, Math 3073.

4043 (3 hours)**Quantum Mechanics II**

Continuation of Physics 4033. Perturbation theory and applied topics in nuclear, solid state, and elementary particle physics. Prerequisite: Phys 4033.

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 2063.

4071 (1 hour)**Optical Systems Laboratory**

A laboratory course to accompany Phys 4063.

Topics covered include polarization, electromagnetic wave detection, wave propagation in matter, spatial filtering, interference, diffraction, radiation, and geometrical optics. Corequisite: Phys 4073

4073 (3 hours)

Electromagnetic Waves and Optics

Electromagnetic radiation, relativistic electrodynamics, interaction of electromagnetic waves with matter, interference, diffraction, black body radiation, lasers and geometrical optics. Prerequisite: Phys 4063 or permission of instructor.

4102-4201 (3 hours)

Engineering Physics Project I and II

The student selects a project or topic for research and is assigned a faculty advisor. An engineering design report describing the project and proposing a solution must be submitted prior to completion of Phys 4102. The plan of action is executed, and a final report is submitted prior to completion of Phys 4201. Prerequisite: Senior standing in engineering physics or permission of physics chair.

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 superconductors, and magnetic materials. Corequisite: Phys 4033

4861-3 (1-3 hours)

Special Topics

4871-3 (1-3 hours)

Research and Physics Literature

Individual or group studies on special topics. Prerequisite: Permission of physics chair.

4971-3 (1-3 hours)

Undergraduate Research

Individual research projects under the supervision of a faculty member. Prerequisite: Permission of physics chair.

4981-3 (1-3 hours)

Senior Thesis

For senior physics majors who wish to do a senior thesis. No more than three (3) credits from Phys 4102, 4201, and 4981-3 may be counted toward any baccalaureate degree. Topics may include theoretical or experimental research, and instruction is on an individual basis.

4991-3 (1-3 hours)

Independent Study

Physical Science

2093 (3 hours)

Astronomy

Astronomy from earth to the limits of the observable universe. History of astronomy and how the scientific method came to be applied to it; the laws of physics in a non-mathematical format and how they apply to astronomy; descriptions of celestial objects; scientific theories of the origin, evolution and operation of the universe.

Certificate Program

Certificate in Computer Science

Director

William A. Coberly
Associate Professor and Chair
Mathematical and Computer Sciences

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 (see computer science entry in this bulletin for descriptions of the following courses):

Required Core

CS 1043, Introduction to Programming and Problem-Solving

CS 2003, Fundamentals of Algorithms and Computer Applications

CS 2123, Data Structures

And three approved computer science electives.

Special Opportunity

Air Force ROTC at The University of Tulsa

By agreement with the United States Air Force, eligible full-time students at The University of Tulsa may participate in Air Force ROTC and receive an officer's commission in the Air Force upon graduation. They are commissioned through the Air Force ROTC program at OSU-Tulsa but remain students at TU and graduate from TU.

Eligibility. TU students in any academic major, including graduate students, may participate. A cadet must be a full-time student, a U.S. citizen, less than age 30 in the year of commissioning (some exceptions apply), have a cumulative GPA of at least 2.00, and not be a single parent (some exceptions apply). Other eligibility requirements apply and are subject to change.

Scholarships. TU students may be eligible for AFROTC scholarships providing up to \$7,500 per semester for tuition and fees, plus a book allowance, plus a \$200 per month tax-free allowance. Some of the scholarships are targeted toward specific majors but others are available to students in any major. Juniors, seniors, and graduate students not on AFROTC scholarship who meet eligibility criteria may receive up to \$1,725 per semester for tuition, books, and fees, plus a \$200 per month tax-free allowance.

Obligation. In most cases, you may try AFROTC by taking the freshman or sophomore AFROTC courses without obligation. In most cases, you do not have to make a final decision whether to commit to ROTC until your junior year. Students who successfully complete the ROTC program become second lieutenants in the U.S. Air Force with a four-year active duty service obligation. Those selected for pilot training or navigator training incur a longer commitment.

The Air Force ROTC Curriculum. Air Force ROTC courses are listed in the OSU-Tulsa catalog as Aerospace Studies (AERO). Freshman and sophomore AFROTC classes are one credit hour each. Junior and senior AFROTC courses are three credit hours each.

All require the cadet to enroll in and attend a weekly leadership Laboratory (LLAB) period at which leadership and followership skills are taught and emphasized. Those selected for the Professional Officer Course attend a four- or five-week Field Training camp one summer, usually between the student's sophomore and junior years.

To Learn More. Call the Air Force ROTC unit at 405-744-7744 or call them toll free at 888-ROTC-OSU (888-768-2678), visit the website at www.afrotc.okstate.edu or send an e-mail to afrotc@okstate.edu

Faculty

- Ackerman, Jane E., Associate Professor of Religion, Chair of Philosophy and Religion, B.A., University of Missouri-Columbia, M.A., University of Kentucky, Ph.D., University of Kentucky
- Adams, Charles W., Professor of Law, B.A., M.A., University of California, Santa Barbara, J.D., University of California, Berkeley
- Ahrens, Marie, H., Clinical Instructor in Nursing, B.S.N., Langston University Urban Center, M.S.N., University of Oklahoma
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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, or the announced academic calendar without prior notice. It is the student's responsibility to stay abreast of current regulations, curricula, and the status of the specific program being pursued. The Undergraduate Bulletin is available on the university's web page: <http://www@utulsa.edu>.

Graduate programs are offered by all colleges and are described in the current Graduate Bulletin. Information concerning the university's College of Law may be found in a separate bulletin.



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