

The University of Tennessee at Chattanooga

UTC  
CATALOG

UNDERGRADUATE 2005-2006

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The University of Tennessee at Chattanooga does not discriminate on the basis of race, sex, color, religion, national origin, age, handicap, or veteran status in provision of educational opportunities or employment opportunities and benefits. The University does not discriminate on the basis of sex or handicap in the education programs and activities which it operates, pursuant to the requirements of Title IX of the Education Amendments of 1972, Pub. L. 92-318; and Section 504 of the Rehabilitation Act of 1973, Pub. L. 93-112; and the Americans With Disabilities Act of 1990, Pub. L. 101-336, respectively. This policy extends to both employment by and admission to the University. Inquiries concerning Title IX, Section 504, and the Americans with Disabilities Act should be directed to the Office of the Director for Affirmative Action, 104 Founders Hall, (423) 755-4124. Charges of violation of the above policy should also be directed to the Office of the Director for Affirmative Action. E040222-001-05

In compliance with The Family Educational Rights and Privacy Act, The University of Tennessee at Chattanooga provides for the confidentiality of student records. Additional information pertaining to the privacy rights of students can be found at <http://www.utc.edu/Administration/Records-Registration/ferpa.html>.

## Student Right To Know

The following information is provided in accordance with the Student Right To Know Act.

By the end of the 2003-04 school year, 47 percent of those students who entered The University of Tennessee at Chattanooga as full-time freshmen in fall 1998 had completed baccalaureate degrees at UTC.

Any questions concerning this or similar information on student athletes contact:

Dr. Richard Gruetzemacher  
Office of Planning, Research &  
Institutional Research  
615 McCallie Avenue  
Chattanooga, TN 37403-2598  
(423) 425-4007

## Information

The course offerings and requirements of the University are continually under examination and revision. This catalog presents the offerings and requirements in effect at the time of publication, but is no guarantee that they will not be changed or revoked. Current information may be obtained from the following sources:

Visit our website at:  
<http://www.utc.edu>

**Admission requirements**—(423) 425-4662 or toll-free 1-800-UTC-MOCS

**Course offerings**—Department offering course or faculty adviser, head of major departments, or dean of college. Call (423) 425-4111 for department number.

**Fees and tuition**—(423) 425-4781

**Financial aid**—(423) 425-4677

**Graduate School admission requirements**—(423) 425-4666

**Housing**—Student Development (423) 425-4304

**Records**—(423) 425-4416

**Registration**—(423) 425-4416

**Transcripts**—(423) 425-4416

**University operator**—(423) 425-4111

# The University

## Mission

The University of Tennessee at Chattanooga will serve as a national model for an engaged metropolitan university whose faculty, staff, and students, in collaboration with external partners, employ the intellectual resources of the liberal arts and professional programs to enrich the lives of those we serve.

## Guiding Principles

The University of Tennessee at Chattanooga interprets the land grant spirit of service for the 21st century through people, partnerships, and performance:

### People

- We are committed to preparing educated men and women for meaningful and productive lives.
- We educate students for life in a global society.
- We promote and celebrate the diversity of people and ideas.
- We provide reasonable and affordable access to higher education.

### Partnerships

- We embrace active and collaborative learning through partnerships among students, faculty, staff, and the community.
- We encourage frequent, respectful, and collegial interaction among students, faculty, staff, and community.
- We provide opportunities for our students to augment intellectual development through participation in artistic, cultural, social, and athletic activities.
- We develop partnerships that strengthen the university and our community.

### Performance

- We prepare our students and alumni to apply knowledge to the challenges of a changing society.
- We use the interconnected activities of teaching, research, and service to promote learning, problem solving, and innovation.
- We use technology to enhance teaching, research, operations, and community outreach.
- We use our resources in a prudent manner to accomplish our mission.
- We use multiple measures to evaluate the performance of our students, faculty, staff, and programs.

## Campus Overview

The University of Tennessee at Chattanooga educates students to assist in the enlightening and disciplining of their minds and their preparation for ethical and active leadership in civic, cultural, and professional life. To achieve this, the University

engages in the complementary and mutually supportive activities of teaching, research, and service.

The University combines the advantages of a strong private tradition with those of a state-assisted institution. Dedicated to providing quality education to a diverse population of approaching 9,000 students, UTC seeks to meet its responsibilities as an emerging metropolitan university, actively involved with regional municipalities, schools, business, and industry and offering expanded instructional opportunities that respond to area needs. The University's ability to fulfill this role is enhanced by continuing support from its alumni, community, and the University of Chattanooga Foundation, a public, nonprofit organization which administers most of UTC's private endowment.

The hallmark of the University is outstanding teaching by a talented and committed faculty. Small classes, personalized advising, and frequent opportunities to interact with faculty provide a student-oriented learning experience.

Research is a priority for the campus. Effective teaching and faculty involvement in scholarship, research, and creative activities are interdependent. These activities foster the intellectual growth of the faculty, provide students with opportunities to participate in the development and application of new knowledge, and enhance the region's growth. A program of well-endowed centers and chairs, (including a significant number of Chairs of Excellence), and professorships builds upon a tradition of faculty research.

The University's programs provide both a firm grounding in the liberal arts and strong professional preparation. Bachelor's and master's degrees as well as several post-master's specialist degrees are awarded through our Colleges of Arts and Sciences, Business Administration, Education and Applied Professional Studies, Engineering and Computer Science, and Health and Human Services.

Education at UTC goes beyond the traditional classroom and laboratory as befits an institution where service is also a high priority. UTC faculty members continue to bring their professional expertise to bear on the concerns of the larger community. Moreover, the University takes advantage of its metropolitan location to provide firsthand learning experiences to students through career-related work experience. Innovative programs, such as our University Honor Program, serve exceptionally talented students. Off campus, the University offers credit and non-credit instruction for professional and intellectual development, extending its educational mission to an even broader range of citizens.

UTC has taken the land grant spirit and applied it in Tennessee and the surrounding region to effect positive social and economic change. In its constant pursuit of academic excellence, UTC is committed to several strategic, imperatives:

- Claiming the assets of technology
- Recruiting, retaining, and celebrating diversity in faculty, staff, and students
- Demonstrating accountability
- Enhancing partnerships
- Enhancing the learning environment
- Using evaluation to drive change

As UTC looks to its future and the emerging needs of the metropolitan region, it will continue its commitment to quality education, excellent research, and dedicated service.

## History

Since its founding as Chattanooga University in 1886, The University of Tennessee at Chattanooga has developed an institutional excellence which rests on an unusual blend of the private and public traditions of American education.

For 83 years the University was a private school. Three years after its founding, the University was consolidated with another church-related school, East Tennessee Wesleyan University at Athens, under the name of Grant University. In 1907 the name University of Chattanooga was adopted.

In 1969 the University of Chattanooga and a junior college, Chattanooga City College, merged with The University of Tennessee, one of the oldest land-grant universities in the nation, to form the UTC campus. Pledged to the service of the entire state, The University of Tennessee has emerged as a statewide system consisting of four primary campuses. The new campus was given the mandate to devote the major portion of its resources to the development of excellence in undergraduate education and in selected areas of graduate study.

The University's wide diversity of degree programs has attracted a current enrollment of more than 8,500 students representing students from across the state, the region, and the world.

## Accreditations and Memberships

The University of Tennessee at Chattanooga is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097. Telephone: 404-679-4501; Fax: 404-679-4558) to award bachelor's, master's, and doctoral degrees. It is also accredited by the National Council for Accreditation of Teacher Education, the National Association of Schools of Music, the American Chemical Society, the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology, the American Assembly of Collegiate Schools of Business International: the Association to Advance Collegiate Schools of Business, the Commission on Collegiate Nursing Education, the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association, the Commission on Accreditation for Dietetics Education of the American Dietetics Association, the Accreditation Council of Occupational Therapy Education, the Accreditation Council for Education in Journalism and Mass Communication, the National Association of Schools of Art and Design, the Council on the Accreditation of Nursing Anesthesia Education Program, the National Association of Schools of Public Affairs and Administration, and the National Athletic

Trainers Association.

The University is a charter member of the Southern University Conference and is a member of the American Association of Colleges for Teacher Education, American Alumni Council, American Council on Education, Association of American Universities, Association for Continuing Higher Education, American Association of State Colleges and Universities, Council of Graduate Schools in the United States, National University Extension Association, the Tennessee College Association, and the Servicemembers Opportunity Colleges.

## Oak Ridge Associated Universities

The University of Tennessee at Chattanooga has been a sponsoring institution of Oak Ridge Associated Universities (ORAU) since 1969. ORAU is a private, not-for-profit consortium of 65 colleges and universities and a management and operating contractor for the U.S. Department of Energy with principal offices located in Oak Ridge, Tenn. Founded in 1946, ORAU provides and develops capabilities critical to the nation's technology infrastructure, particularly in energy, education, health, and the environment. ORAU works with and for its member institutions to help faculty and students gain access to federal research facilities; to keep members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among our members in areas where their collective strengths can be focused on issues of national importance.

ORAU manages the Oak Ridge Institute for Science and Education (ORISE) for the U.S. Department of Energy. ORISE offers national and international programs in science and engineering education, training and management systems, energy and environment systems, and medical sciences. ORISE's programs bring students at all levels, K-12 through postgraduate, and university faculty members into federal and private laboratories.

ORAU's office for University, Industry, and Government Alliances seeks opportunities for alliances among its member universities, private industry, and federal laboratories.

## Chattanooga

The University is located a few blocks from downtown Chattanooga, a city that is both highly industrial and rich in natural beauty. Claiming more than 600 industries, Chattanooga lies at the foot of Lookout and Signal Mountains where the Tennessee River forms Moccasin Bend. These sites possess historical significance as well as beauty in a city steeped in the heritage of the Civil War.

The cultural environment of Chattanooga is enhanced by contributions from the University and the many civic organizations that support the arts through dramatic productions, concerts, and art exhibits. Ten city parks, seven public golf courses, and a 35,400 acre lake provide a variety of recreational activities.

With a population of about 162,170 in a metropolitan statistical area of over 466,647, Chattanooga is easily accessible from all parts of the nation by air and bus.

# UNDERGRADUATE ADMISSIONS

# Admissions and Regulations

The Admissions Office administers all matters pertaining to undergraduate admission. All requests for information and application forms should be addressed to the Office of Undergraduate Admissions, The University of Tennessee at Chattanooga, Chattanooga, Tennessee 37403. The Admissions Office is located in room 203 Guerry and the telephone number is (423) 425-4662. Completed admissions applications and credentials should be sent to the same office. A \$25 nonrefundable application fee is required of all candidates who have not previously applied to a University of Tennessee campus or the University of Chattanooga.

New students may be admitted for the fall or spring semester or any summer session. Every effort should be made to submit the completed application and supporting credentials no later than four weeks prior to the beginning of the semester in which admission is desired. Freshmen applying for the fall semester must apply by August 1 for full consideration; the priority deadline for spring semester is December 1, and April 15 is the priority deadline for all summer sessions.

## Orientation and Advising

New student orientation programs for freshmen and transfer students are directed by the Orientation Office and combine the services and skills of the Admissions Office, the Advisement Office, the Registration Office, and, the Student Development Office. These programs provide an introduction to the campus and University life. The Premier Assistants, composed of upper-class student leaders, also have a major role in planning and coordinating new student orientation.

Each orientation program includes a tour of the campus, an explanation of its facilities and academic offerings, small group discussions with faculty and students, advising and registration, plus entertainment and the opportunity to get acquainted with fellow students. In addition, subject placement exams are given to establish the level of proficiency. Students may be placed in the regular or developmental curriculum as a result of the exams.

The Advisement Office coordinates the activities of the Faculty Advisory Council, which is a panel composed of faculty members selected for their expertise in dealing with student-

related matters. These advisers assist students in reaching their academic and career goals and provide personal attention for freshmen and all pre-majors. Results of placement and achievement tests as well as copies of the students' records are made available to the advisers for use in advisement.

Engineering, music, nursing, chemistry, communication, education, human ecology, biological and environmental science, physical therapy, and humanities majors, and students who have completed 30 or more hours are advised by the major departments.

To schedule an appointment with an adviser, the student should go to the Advisement Office located in 278 University Center or call (423) 425-4573.

## Applying for Admission

Requirements for freshmen are described below, followed by special requirements for adult applicants. Requirements for transfer students (students who have attended another college) are on pages 6 and 7. Transient students and others who are not seeking a degree should refer to special requirements listed on page 7.

### Measles Immunization Requirement

In an attempt to maintain a healthy campus environment, The University of Tennessee campuses require that all new entering students born after 1956 furnish documented proof of having immunity or having been immunized with a live measles vaccine after January 1, 1980, unless contraindicated because of pregnancy, allergy to a vaccine component, or other valid medical reasons. A verification of immunization, signed by a health care provider, should be returned to Health Services. An official copy of the "Permanent Tennessee Certificate of Immunization" (form PH-2414) or a comparable immunization form from another state will also be acceptable.

### Credentials for all Freshman Applicants

The following credentials must be submitted before an applicant can be considered for freshman admission:

1. Application for admission.
2. Official high school transcript. The high school transcript may

be sent any time after the completion of the junior year. A final transcript showing all grades must be submitted after high school graduation and must include type of diploma and date of graduation. Applicants with high school equivalency diplomas should submit scores from the General Education Development Test as well as official transcripts of completed high school work.

3. ACT or SAT scores (for freshmen under 21)
4. \$25.00 nonrefundable application fee.

### High School Preparation

Completion of a college preparatory program in high school is expected for admission of freshmen. Minimum high school unit requirements are as follows:

Subject Area	Units Required
English	4
Algebra	2
Geometry	1
Laboratory Science	2
American History	1
World History or World Geography or European History	1
A single foreign language	2
Visual/Performing Arts	1
<b>Total</b>	<b>14</b>

Applicants who have deficiencies in any of the above areas may be denied admission. Those who are admitted with deficiencies will be required to take courses which will not apply toward their college degrees. For further details, see the section entitled "Conditional Admission."

In addition to the minimum high school unit requirements listed above, students should plan high school courses of study that will prepare them for their specific areas of interest. In particular, four years of college preparatory mathematics are recommended for students considering majors in science, medical technology, engineering and other mathematics related fields. Engineering majors are also advised to take 3 units of science including physics.

After admission, UTC freshmen take placement tests in reading, writing and mathematics to determine whether they will need to enroll in developmental courses prior to college level courses. Taking a strong college preparatory curriculum in high school will help students do well on these placement tests.

### Types of Admission

Two categories of admission for applicants under 21 years of age are described below. Special requirements for adult students (21 years of age or older) are described in the section entitled "Adult Freshman Admissions."

### Regular Admission

Regular admission will be granted to graduates of approved high schools\* who meet one of the following two descriptions:

1. A high school grade point average of at least 2.75 (on a 4.0 scale) and a minimum score of 17 on the Enhanced ACT (810 SAT)

and completion of all 14 high school units listed above.

### OR

2. A high school grade point average of at least 2.00 (on a 4.0 scale) and a minimum score of 21 on the Enhanced ACT (980 SAT) and completion of all 14 high school units listed above.

*\*Approved high schools are those approved by the State Department of Education or by the regional accreditation association. In the case of graduates of high schools that have not been so approved, regular admission will be granted to applicants with a high school grade point average of at least 2.75 on a 4.0 scale, and a score of 21 on the Enhanced ACT (980 SAT) and completion of all 14 high school units.*

### Conditional Admission

Students who do not qualify for regular admission are eligible for conditional admission if they meet the following minimal requirements:

1. Completion of the 14 high school units listed above;
2. Minimum high school grade point average of 2.0 (on a 4.0 scale);
3. Minimum score of 17 on the Enhanced ACT (810 SAT);
4. High school graduation or acceptable high school equivalency diploma (45 on the General Education Development test).

Applicants with extenuating circumstances who fail to meet conditional admission requirements will be considered for conditional admission on a case-by-case basis by the Faculty Admissions Committee. Students who wish to be considered for conditional admission should do so in writing to the Undergraduate Admissions Office. Students admitted with high school unit deficiencies will be required to remove their deficiencies by taking specified courses within their first 42 hours of enrollment. Credit earned in such courses does not apply toward any degree requirements, including general education, major or elective requirements. Students admitted with a high school deficiency in American history are required by Tennessee law to complete 6 semester hours of college-level American history (Tennessee Code Annotated Section 549-3253).

Freshmen admitted on condition must earn at least a 1.0 GPA during their first semester at UTC or suspension will result. If a student is placed in developmental courses, the institutional grade point average will be used to determine continuation. The cumulative grade point average will be used for continuation standards of all other students. In addition, they may be subject to one or more of the following conditions:

- a) reduced course credit load;
- b) specific course requirements;
- c) specific academic advisor;
- d) specific program of developmental studies;
- e) enrollment in summer programs designed to improve academic skills.

### Adult Freshman Admission

The University of Tennessee at Chattanooga encourages applications from adults who are 21 years of age or older. Adult freshmen applicants are expected to submit official high school transcripts, including type of diploma and date of graduation, but do not

need to submit ACT or SAT scores. Applicants may be asked to take UTC placement examinations to help demonstrate their academic preparedness for college. Applicants with high school equivalency diplomas are expected to present a score of at least 45 on the General Education Development (GED) test.

Admission decisions will be made on a case-by-case basis by either the director or designate of the Admissions Office using all available evidence, including applicant's post-high school experiences. In addition, students may be subject to one or more of the following conditions:

1. Reduced course credit load;
2. Specific course requirements;
3. Specific academic advisor
4. Specific program of developmental studies.

### Transfer Students

Applicants for admission as degree seeking students who have been registered in another college or university are classified as transfer students. They must submit to the Undergraduate Admissions Office an official high school transcript showing graduation and type of diploma and complete official transcripts from each previously attended college. Transfers applying for the fall semester must have all supporting credentials listed above on file in the Admissions Office by August 1. Transfers applying for the spring semester must do so by December 1. Transfers applying for any summer semester must apply by April 15.

For admission as transfer students, students must have pursued courses appropriate to the curriculum at The University of Tennessee at Chattanooga, must be eligible to return to their last institution, and must meet The University of Tennessee at Chattanooga's continuation standards (see page 26 for standards). Grades for all courses attempted will be used in determining the continuation standards. Students who graduated from high school in 1989 or after and are transferring fewer than 60 hours of semester credit must also meet the minimum high school unit requirements and are required to take UTC's placement exams unless an exemption is granted. Students who transfer fewer than 12 hours of college level non-developmental coursework must meet the minimum requirements for new freshman (see pages 6-7). Refer to page 6 for high school unit and placement exam requirements.

Students whose records do not meet the standards required by the University for admission will be denied admission unless, in the opinion of the Vice Chancellor for Student Development or his/her designate, acceptance on scholastic probation is justified. If admitted on probation, students will be required to remove high school unit deficiencies within their first 30 hours of enrollment at UTC. Credits earned in such courses do not apply toward any degree requirements, including general education, major or elective requirements.

Transfer courses are usually accepted at full credit value as either specific course equivalents or electives. Credit will not be given to courses that are not appropriate to the curriculum of UTC. After each course from all previous institutions has been evaluated, transfer students will receive an official evaluation outlining how credit has been accepted at UTC.

- Students transferring at least 60 hours from other University

of Tennessee campuses or Tennessee Board of Regents institutions will not receive credit for courses with a grade below C.

- Senior level credit is not awarded for courses completed at a two-year institution.
- Transfer students from senior institutions must complete at least 25% of the minimum semester hours required for the degree under the direction of the UTC faculty; the last 24 semester hours must be completed at UTC.
- Transfer students from two-year institutions must complete a minimum of 60 semester hours at a senior institution.
- A student who earns credit at a two-year college during his last 24 hours at UTC may choose not to apply the credit toward graduation.

Students wishing to transfer to The University of Tennessee at Chattanooga from regionally unaccredited colleges and universities must meet UTC's admissions requirements. Credit is not awarded for courses completed at regionally unaccredited colleges or universities.

Transfer credits accepted by The University of Tennessee at Chattanooga will be entered on the academic record only after the student has registered for classes at The University of Tennessee at Chattanooga. Applicants who fail to declare previous college attendance and to submit transcripts of such records will be subject to dismissal from the University.

### Appeals for Admission

Students who are denied admission have the right to appeal the decision to the chancellor of UTC. Appeals must be submitted in writing by the end of the first five class days of the fall and spring semesters and the first two class days of any summer term. Students granted admission by appeal may be required to meet the same conditions as stated above.

### Residency Appeals Procedure

All residency appeals for a given semester must be submitted, along with all necessary supporting evidence, to the appropriate admissions office (Undergraduate or Graduate) on or before 5:00 p.m. of the fifth day of classes counting from the first official day of classes. Those appealing for a five-week summer term have until 5:00 p.m. of the third day of classes. These deadlines also apply to students seeking to pay in-state fees due to their full-time employment in the State of Tennessee. Decisions on appeals made before the deadline will be effective for that semester. Appeals received after the deadline, if granted, will be effective the following semester.

The Director of Admissions serves as the primary classification officer for undergraduate students enrolled at The University of Tennessee at Chattanooga. Residence classification appeals should be made in writing (on the appropriate form which can be obtained from the Admissions Office) to the Director of Admissions. Appeals should include appropriate evidence to support the student's establishment of domicile in the state of Tennessee.

The decision of the Director of Admissions may be appealed to the chairman of the Residency Appeals Committee by making this request in writing to the committee chair. The chairman of the committee will schedule a hearing to review the student's request and, following the hearing, the committee will make a

decision on the appeal. The student may be present at the committee's hearing and may bring to the hearing any materials or other individuals (including legal counsel) that he or she believes will support the appeal.

The student may appeal in writing the committee's decision to the chancellor of UTC. The student has the right to appeal in writing the chancellor's decision to the president of The University of Tennessee. Final appeals are decided by the Board of Trustees for the University of Tennessee.

## Special Admission

### Adult Special Status

An applicant 21 years of age or older who wishes to take undergraduate courses, but who does not plan to work toward a degree from The University of Tennessee at Chattanooga, may be admitted as an adult special student. The applicant must give satisfactory evidence of preparedness to take the desired courses. An adult special student must meet the same course requirements as regular students since the special student's work is graded at the completion of the course. An adult special student may subsequently apply for regular student status at the University. In such a case, the student's grades will be reviewed and up to 60 semester hours of credit may be counted toward fulfillment of degree requirements. Students who have previously been suspended or dismissed from The University of Chattanooga or The University of Tennessee may not enroll as adult special students. Students with college credit from another institution may not enroll as adult special students.

### Audit Student Status

Adults who wish to attend undergraduate classes without earning credit or receiving grades may register as auditors only if the space is available in the class desired and if the instructor approves the registration. Any adult student entering under audit classification who subsequently wishes to take courses for credit must meet all requirements for admission to the University. Those under 21 may have this privilege only if they have fulfilled the admission requirements of the University.

Auditors are under no obligation of regular attendance, preparation, recitation, or examination. They receive no letter grades and no credit. The degree of their participation in class discussion, laboratory, or field work shall be determined by the instructor of the class.

The tuition and fee charge is the same for audit registration as for credit registration. Academic records are maintained only for audited courses in which the student attends at least 75 percent of the class sessions.

### College Challenge Program

The College Challenge Program is designed to give outstanding high school students an opportunity to preview college by taking selected college courses during the summer or the regular academic year. Special sections of regular college courses may be offered, or high school students will be permitted to enroll along with college students in regular courses. The admission to the College Challenge Program requires the following:

1. Enrollment in high school or intention to return to high school in order to complete requirements for a diploma,
2. A grade point average of at least a 3.0 ( B ),

3. Recommendation of the high school principal or guidance counselor, and the
4. Permission of the UTC teacher and/or department head.

Students will be permitted to earn up to 24 semester hours in the program and may take a maximum of 12 hours in the summer and no more than two courses during the fall and spring semester. The credits will be applicable to a degree at UTC or may be transferred.

### Early Admission

The University has a program of early admission for exceptionally gifted students. In order to be eligible for the early admission program, a student should have a 3.5 high school average and score in the 95th percentile or above of University norms on the ACT or the SAT examination at the end of the junior year in high school. A student may apply for early admission with the consent of his or her parents and the approval of the student's principal or guidance counselor. Assuming the student meets the previously listed requirements, he or she will be admitted only if in the opinion of the Assistant Vice Chancellor for Student Development the student will clearly profit from this kind of placement. In most cases a personal interview with the student is required.

Such students may be considered for admission as full-time students, summer session students, or on a dual enrollment basis while completing secondary school.

### GED Applicants

A high school equivalency diploma will be accepted in place of high school graduation if the applicant has scored at least 45 on the General Education Development test (GED). Applicants who are 21 years or older should refer to the section entitled "Adult Freshman Admissions" for further requirements. Applicants less than 21 years old should refer to the section entitled "Freshman Admission Requirements" for further requirements. Applicants with extenuating circumstances who fail to meet admission requirements will be considered for conditional admission on a case-by-case basis.

### International Students

In making application for admission to undergraduate study, each international student will be required to provide the following:

1. A completed application for undergraduate admission accompanied by the \$25 application fee.
2. Authenticated copies of the applicant's academic records. These records should describe the courses of instruction in terms of years spent in school and types of subject matter covered with grades earned in each subject. These documents must be interpreted in English.
3. A minimum score of 500 on the Test of English as a Foreign Language for applicants whose native language is not English. Information about this test is obtained from the Educational Testing Service, [www.ETS.org](http://www.ETS.org).
4. Evidence of an MMR vaccination prior to being given permission to enroll. A TB skin test is required upon arrival in the United States.
5. Evidence dated no earlier than six months prior to registration that the applicant has adequate financial resources to meet the



expenses of attending the University and that such resources will be available to the applicant in the United States prior to the date of his or her registration at the University.

6. An estimate of expense form signed by the student showing he/she is aware of the costs in attending the University.

Transfer students must supply a letter of good standing from their Foreign Student Adviser and must meet the requirements for admission to the University as a transfer and an international student. These requirements are stated in the section on Transfer Students.

All international students are required to enroll in the insurance program for UT students.

All application materials must be submitted and processed by June 30 for the fall semester and by October 31 for the spring semester. All admission materials should be sent to the International Student Services Office, UTC Department 4755, Chattanooga, TN, 37403.

### **Non-Degree-Seeking Status**

Students who wish to take courses for personal fulfillment or career enhancement can apply as non-degree-seeking applicants. To qualify for this status, students must be at least 21 years of age and must be a high school graduate or have a GED. Non-degree-seeking students can earn a maximum of 60 semester hours; these hours can later be applied toward an undergraduate degree. Students seeking to do so must apply for degree-seeking status at any time prior to or after the 60 semester hours have been completed to assure continued enrollment. Admission as a non-degree-seeking student does not guarantee admission as a degree-seeking student at a later time. Non-degree-seeking students who wish to enroll in upper level courses requiring prerequisites must provide the appropriate department head with an official transcript to verify completion of the prerequisite courses.

Former UTC and/or international students may not enroll as non-degree-seeking students, nor can students who have previously been denied admission to UTC. Non-degree-seeking students are not eligible to receive academic advising or need-based financial aid. Students under this category must maintain a 2.0 grade-point average in order to continue enrollment at UTC.

### **Post-baccalaureate Admission**

See Graduate School, page 39.

Students desiring a second bachelor's degree should contact the Adult Services Center.

### **Readmission**

Former students in good standing who have been away from the University for one semester or more (excluding the summer) must apply for readmission. If they have attended any other college or university during their absence, they must also meet the requirements for admission to the University as transfer students as stated on page 6, with the exception that no application fee is required for readmission. Students who have been suspended or dismissed from the University are referred to the section on Continuation Standards for the conditions under which they may be readmitted.

Students applying for readmission who have not attended any other institution in their absence must submit their completed application by August 15 for fall; December 31 for spring; and April 15, June 1 or July 1 for each respective summer term. Readmission students who have attended another institution must meet the transfer student deadline and submit a completed application by August 1 for fall, December 1 for spring, and April 15 for all summer terms.

### **Special Audit and Special Fee Students**

Tennessee residents who are at least 60 years of age may audit classes on a space available basis at the University without paying a fee. Similar arrangements are available for Tennessee residents who are 100 percent disabled.

Tennessee residents who are 65 years of age or older and persons totally disabled who meet admission requirements may enroll for credit for a fee of \$7.50 per semester hour to a maximum of \$75 per semester.

Persons wishing to participate in any of the above programs should call the Adult Services Center (423) 425-4485.

### **Transient Students**

Students who are enrolled in another college or university and do not wish to transfer to UTC and seek a degree may enroll as transient students. Enrollment under this condition is usually for one semester, and students are usually enrolled in courses that will transfer to another institution and apply toward degree requirements. An official letter indicating that the student is in "good standing" (eligible to return) must be sent to the Office of Undergraduate Admissions from either the registrar or academic dean of the student's present institution. A transient student cannot be on any type of academic or disciplinary restriction, warning or action such as probation, suspension or dismissal. If a transient student wishes to continue enrollment past the initial semester, an additional letter of good standing may be required.

Transient students who wish to enroll in upper level courses requiring prerequisites must provide the appropriate department head with an official transcript to verify completion of the prerequisite courses.

Transient students are not eligible for advisement and/or financial aid.

## **Special Credit**

### **Advanced Placement**

In addition to advanced standing by transfer work, students admitted to the University may obtain advanced placement by any of several examinations.

The University participates in the advanced placement program of the College Entrance Examination Board (CEEB). Applicants who have taken the advanced placement examinations may submit the results to the Undergraduate Admissions Office for consideration.

The University may grant credit and advanced placement in the subject of the examinations to those entering students who earn scores of three, four, or five. Some departments may exercise their option to require a minimum score of four. Such students may then begin their college study at the level for which their advanced preparation has qualified them. Examinations with

grades of three or two will be referred to the appropriate department, which will determine whether credit or advanced placement can be granted.

Credit earned through advanced placement will be entered on the student's academic record at the University but will not be computed in the grade point average. A maximum of 24 semester hours may be earned in advanced placement credit.

Other forms of special credit are available to students enrolled at The University of Tennessee at Chattanooga. Please refer to page 28 for additional information.

## STUDENT FINANCIAL AID

The University of Tennessee at Chattanooga offers a comprehensive program of student financial assistance. Through federal, state, and University financial programs a student may receive one or more different types of assistance to cover educational costs.

There are four basic types of financial aid for UTC students: scholarships, grants, loans, and part-time employment. These are awarded individually or in combination, depending on the student's financial need.

Financial need is the difference between the student's cost of attendance at the University and the family's computed contribution to that cost. To assist in determining the student's financial need, the University uses the needs analysis system of the U.S. Department of Education. Through the use of the Free Application for Federal Student Aid (FAFSA), the Financial Aid Office determines the amount the student and the student's family can be expected to contribute toward meeting educational expenses. A student's financial need is then met with the various types of financial aid. The Free Application for Federal Student Aid is available in the UTC Financial Aid Office or a high school's guidance counselor's office. UTC encourages students to complete the Free Application for Federal Student Aid form online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov).

### Tennessee Lottery Scholarships

Tennessee residents who graduated from a Tennessee high school in 2003 or after may qualify for Tennessee Lottery Scholarship funds. These funds are administered by the Tennessee Student Assistance Corporation (TSAC), and awards generally range from \$3,000 to \$4,000 per year. Students should check with the Financial Aid Office to receive the most up to date information as these scholarships are subject to annual changes. For the 2005-2006 academic year, the application of Lottery Scholarship funds is the Free Application for Federal Student Aid (FAFSA), and TSAC has published a priority application deadline of May 1, 2005.

### Scholarships

The University of Tennessee at Chattanooga scholarship program for new and currently enrolled students is made possible through funds provided by the University, outside foundations, estates, private businesses, civic groups, individuals, and alumni.

Most scholarships are awarded to students who demonstrate strong academic achievement and proven need for financial assistance. There is, however, a number of scholarships based solely on academic achievement. Unless otherwise stated, to compete for any scholarship a student currently enrolled at UTC or a transfer student must submit a UTC Application for Scholarship. First-time freshmen may apply via the Application for Undergraduate Admissions and Academic Scholarships.

The Financial Aid Office must receive the UTC Application for Scholarship by March 1.

### University Honors Program Scholars

Each year up to 20 outstanding freshmen entering the University Honors Program are selected to receive four-year scholarships, covering the cost of tuition, fees, books and a large portion of campus housing. The selection of these scholars, based on their attributes of scholarship, service, and leadership, is made by the faculty and staff of the University Honors Program in consultation with the Office of Financial Aid. Applicants must file both a regular application for admission to the University and a special application for admission to the UHON Program by February 1 of the applicant's senior year in high school.

For more information about UHON admissions, see page 39. The following endowed funds support the program:

*William E. Brock Jr. Scholarship:* Established in 1979 by University of Chattanooga Foundation in honor of William J. Brock Jr., a longtime member of the UC Board of Trustees.

*Paul Koblentz Memorial Scholarship:* Established in 1990 through a bequest from Abe J. Koblentz as a memorial to his deceased son, in order to provide scholarships for deserving students.

*Dorothea Woods Obear Scholarship:* Established in 1990 by Chancellor Frederick Obear in memory of his mother who had a strong interest in the University and its honors programs. The scholarship goes to a student in the University Honors Program.

*Vasconez & Donovan Scholarship:* Established in 1994 by James M. Donovan, a UTC Brock Scholar graduate of the Class of 1977. The scholarship, in memory of his partner Jorge Vasconez, is for students in the University Honors Program.

*Roberta M. "Bobbie" Yates Scholarship:* Established in 1998 from the estate of her husband, Arthur E. Yates, an alumnus of UT and president of the Yates Bleachery Company of Flintstone, Ga., for University Honors students with financial need.

### Chancellor's and Provost's Scholars

First-time freshmen who present certain minimum high school grade point averages and ACT or SAT scores are eligible for scholarship considerations. Scholarships are renewed for up to four years based on the student's academic performance and the funds available. Approximately 130 awards are available each year in the Chancellor's and Provost's Scholars programs combined. Recipients are determined by the UTC Scholarships Committee.

### Chancellor's Scholars

First-time freshmen who are admitted by February 1 with a 3.75 GPA and a 30 ACT (1320 on SAT) will be considered for Chancellor's Scholarships, an annually renewable award of \$3,000, and \$3,000 to \$4,000 of Tennessee Lottery Scholarship funds may be added to this amount. Out-of-state students will qualify for different stipend amounts.



- and colleagues. Dr. Gurley was UTC professor of mechanical engineering and former department head. Awards go to students majoring in engineering.
- William Q. Gurley Scholarship*: Established in 1999 by Joe and Marianna Wheeler in memory of Dr. Gurley, UTC professor of mechanical engineering and former department head. Awarded to sophomore, junior and senior students enrolled in the College of Engineering.
- Ken and Cary Harpe Scholarship*: Established in 1997 with a planned gift by UT alumni Ken and Cary Harpe to be awarded in the future to one English major and one member of the varsity football team, or a candidate who meets both requirements.
- John L. Hutcheson Jr. Memorial Scholarship*: Established in 1983 by the Rossville Memorial Center and W. Frank Hutcheson in memory of John L. Hutcheson Jr., longtime University of Chattanooga board member and a prominent citizen of North Georgia. The scholarship is awarded to students who demonstrate successful academic performance. Preference is given to students from specific North Georgia counties and Tiftonia.
- David McKendrie Key Scholarship*: Established by Sarah Key Patten in memory of her father, Postmaster General of the United States, U.S. Senator, Federal Judge, and one of the founders of the University.
- Gene E. Kistler Scholarship*: Established in 1994 through a bequest from the estate of Dr. Kistler, a longtime Chattanooga physician and surgeon, as an expression of his appreciation for his community and for the University. Kistler had been chief of surgery for Erlanger and T. C. Thompson Children's hospitals. This award goes to students with declared premedical majors.
- David Ardell Knauff Memorial Scholarship*: Established in 1990 by Major Charles H. Knauff, U.S. Army Ret., in honor of his son, a cum laude graduate of UTC in 1977, who died in Atlanta where he worked for CBS Television Productions. First consideration given to students from Ooltewah High School.
- Loveman's Marketing Scholarship*: Established in 1988 as a Centennial gift to the University by the donor company under the leadership of its late president James L. Moore Jr. The Moore family and Loveman's Department Store have been economic and cultural leaders in Chattanooga with a long history of involvement with the University.
- Harold Marlowe Scholarship in Physics Scholarship*: Established in 1999 by Betsy Marlowe Bush in her desire to honor her son, UTC Professor of Physics Robert Marlowe. Award is made to a student in the physics department.
- Toby and Brenda McKenzie Education Scholarships*: Established in 1997 by entrepreneurs Toby and Brenda McKenzie of McKenzie Development Corporation of Cleveland in appreciation for the great influence of good teachers in their formative years. The award is meant to encourage and assist students preparing to become educators.
- Joan Reagin McNeill Scholarship*: Established in 1999 by Joan Reagin McNeill, UTC alumna whose interests have included the athletics program, the arts and Sigma Kappa Sorority. Award is to be based on academic performance and financial need, with first consideration given to a female student.
- Herschel W. Nation Memorial Scholarship*: Established in 1996 by William, Jeffrey, and Michael Nation, Lou Nation, and Ray L. Nation, the sons, widow, and brother respectively of Herschel W. Nation in his honor. A graduate of the Class of 1947, Nation served as student radio announcer at the University of Chattanooga and after a career in radio, founded and became president of Gateway Hosiery Mills. The award is divided between students majoring in English and communication.
- Robert C. Mildram Scholarship*: Established in 2000 by Amy Mildram to honor her late husband, Dr. Robert Mildram, former Dean of Students at the University of Chattanooga and chair of the Department of Philosophy and Religion. Preference is given to students majoring in philosophy and religion.
- Joe A. Murphy, Jr. and Virginia L. Murphy Scholarship*: Established in 2003 by Joseph Patrick (Pat) Murphy to honor his parents. Preference for selection is for members of the UTC Varsity Wrestling Team who are majoring in Business Administration. If criteria for this preference cannot be met, the scholarship is to be awarded to a member of the UTC Wrestling Team.
- Newbold Scholarship*: Established in 2000 as a memorial to Dr. Nathan C. Newbold, his son, Nathan Newbold, Jr. and his grandson, Nathan C. Newbold III. Preference for the award is made to deserving African-American students who show promise in both academics and integrity. Dr. Newbold was for 37 years North Carolina Director of the Division of Negro Education; his son retired from TVA after 40 years of service, and Newbold III was a 1963 UC graduate who made his career with American National Bank.
- Charles A. Noone Scholarship*: Established in 1961, and enhanced at her death in 1980, by Mrs. Noone in memory of her husband, a prominent lawyer who practiced in Chattanooga for many years and was the father of an alumnus.
- Dickie Norton Memorial Scholarship*: Named in memory of Dickie Norton, a UTC alumnus who was chair of the effort to endow a scholarship for Cleveland-area students before his death in 1988. Preference is given to a student from Cleveland, Tenn.
- Nursing Alumni Scholarship*: Established in 2004 by alumni of the nursing program to provide assistance to nursing majors who have completed the first semester of classes. Recipient selection is by the Scholarship Committee of the School of Nursing.
- Adolph Ochs Journalism Scholarship*: Established in 1999 by his granddaughter Ruth S. Holmberg in memory of Adolph Simon Ochs (1858-1935), esteemed newspaper publisher. Ochs was publisher of the Chattanooga Times and The New York Times and made extraordinary contributions to his community, region, state and nation through newspaper journalism. He also helped found the University of Chattanooga. Preference for award is to a student majoring in communication.
- Barbara and Robert Oldham Scholarship*: Established in 2003 by Barbara and Robert Oldham, both first-generation college graduates, to students who have shown success in academics and have financial need. First consideration is given to single mothers.
- Cynthia Glasscock Parker Scholarship*: Established in 2000 by Elizabeth Glasscock in honor of her daughter, who graduated from UTC in 1973 with a B.S. degree in home economics and has multiple sclerosis. Ms. Parker's father, the late Leroy Glasscock, was a member of the Class of 1940 and her mother also attended UTC.
- Jenks Fain Parker Memorial Scholarship*: Established in 1984 by the family of Jenks Fain Parker. The scholarship is awarded to deserving students in the College of Engineering and Computer Science as recommended by UTC Scholarship Committee.
- Elizabeth Bryan Patten Scholarships*: Established in 1972 by businessman Z. Cartter Patten in honor of his wife, active civic,

- welfare, and religious leader of her community.
- Sarah Key Patten Scholarship:* Established in 1955 by Z. Cartter Patten in honor of his mother, one of Chattanooga's most beloved matrons, daughter, and mother of University trustees.
- P. Robert Philp Scholarship:* Established in 1997 by Ms. Katherine Philp Fowler in memory of her late husband, P. Robert Philp, former president of First Tennessee Bank of Chattanooga, civic leader and trustee of the UC Foundation. Award is made on academic performance and/or financial need with preference to employees of First Tennessee Bank or their children.
- Katharine E. Pryor Scholarships:* Established through a bequest from the estate of Miss Pryor, a 1936 alumna and longtime teacher at Chattanooga High School, who died in 1992. Scholarship recipients shall be graduates of the Chattanooga or Hamilton County Public School Systems.
- Alex Radin American Public Power Association Scholarship Fund:* Friends and colleagues of alumnus Alex Radin established in 1986 an endowed scholarship honoring Radin, the distinguished executive director of the American Public Power Association, a national organization headquartered in Washington, D.C., which represents more than 1,750 municipal and other local publicly owned electric utilities.
- Olivia Caroline Grisham Rayl Scholarship:* Established in 2003 by Leo S. Rayl, Jr., in memory of his wife of 57 years who graduated from Chattanooga Central High School in 1937. The scholarships are for students who have been orphaned at an early age.
- Ray Robinson, Jr. and Nancy Robinson Oliver Scholarship:* Established in 1999 by Jimmie Robinson and Ray Robinson, Sr., in memory of their son, Ray Robinson Jr., engineer and UTC graduate, and in honor of their daughter, Nancy Robinson Oliver, also a UTC graduate who is active in community service. The scholarship is based on academic performance.
- Henry V. and Judith Talley Secor Scholarship:* Established in 1996 with a gift from Henry V. Secor, Class of 1955, and Judith Talley Secor, who attended the University of Chattanooga in 1952-53 and graduated from the University of North Carolina. Former Chattanoogaans, the couple reside in Midlothian, Va. The awards are based on successful academic performance and financial need.
- C.G. "Doc" Schettler Memorial Scholarship:* Established in 1998 by Ann Schettler Worth to memorialize her father, C.G. "Doc" Schettler, pharmacist, state representative and Circuit Court Clerk in Sweetwater, TN. Scholarship is awarded with preference to students majoring in human services management for advanced training in emergency management.
- Douglas Sherman Golf Scholarship:* Established in 2003 by friends of Douglas Sherman to honor their late friend, fellow golfer and golf enthusiast, by establishing scholarship assistance to a young student athlete. Preference for awarding is to students who qualify as members of the UTC golf team and transfer to UTC from Cleveland State Community College. Second preference goes to graduates of certain named area high schools.
- Siskin Circle of Scholars Scholarships:* Established in 2003 by a partnership between the Siskin Children's Institute and the University of Tennessee at Chattanooga. The scholarship allows students in the special education program and graduate students in the school psychology program at UTC the opportunity to complete their degree while continuing employment. Siskin Scholars are required to participate in activities at the

Siskin Children's Institute.

*Jim Spencer Scholarship:* Established in 1999 by Ann Spencer and Marguerite Cleveland in memory of UTC graduate Jim Spencer, Mrs. Spencer's son and Mrs. Cleveland's nephew. Spencer was a Certified Public Accountant and master gardener. Award is made to students majoring in accounting on the basis of demonstrated financial need.

*Dr. Roy Stinnett Memorial Scholarship:* Established in 1994 by the Stinnett family as a memorial to Dr. Stinnett who was an assistant football coach and later dean of the College of Education and Applied Professional Studies at UTC. The scholarship is for students who are in the education program.

*Lillian Summers Scholarship:* Established in 2003 with a bequest from the estate of Lillian Summers who dedicated her life to the American Red Cross serving in the Mediterranean Theatre of Operations in World War II. The scholarship is awarded to graduates of Chattanooga's Notre Dame High School.

*Horace Traylor Scholarship:* Established in 1988 to honor Dr. Horace Traylor, former president of Chattanooga City/Zion College at the time of the merger with UT and UC and the first minority graduate of UTC.

*James Edward Walker Jr. Memorial Scholarship:* Established through a charitable bequest from the estate of Sarah Burrell Walker, who died in 1994, in honor of her late husband. The award goes to students majoring in English or French.

*Howard L. Westbrook Scholarship:* Established in 1993 by alumnus Howard L. Westbrook of Fairhope, AL., Class of 1958, for students studying science or engineering.

*Fred Westcott Scholarship:* Established in 1985 as a result of a bequest from Mr. Fred Westcott, a pioneer in the Dalton, Georgia, carpet industry, for general scholarships.

*Gertrude Jackson Witt Scholarship:* Endowed in 1997 by a bequest from Gertrude Witt Hellman, Class of 1938. The award goes to students with demonstrated academic success and financial need with preference to single parents and students with siblings attending college.

### Deans' Scholars

In addition to the University's other scholarship programs, African-American residents of Tennessee who are first-time freshmen and present certain minimum high school grade point averages and ACT or SAT scores are eligible for consideration for Deans' Scholarships. First-time freshmen who are admitted by February 1 and have a 3.0 GPA and a 19 ACT (890 SAT) will be considered for \$2,000 per year, and \$3,000 to \$4,000 of Tennessee Lottery Scholarship funds may be added to this amount. Scholarships are renewed for up to four years based on the student's academic performance and the funds available. Approximately 120 awards are available each year. Recipients are determined by the UTC Scholarships Committee. Students may not receive both a Deans' Scholarship and a Chancellor's or Provost's Scholarship.

### UT Alumni Scholars

Tennessee high school valedictorians who enroll at UTC become UT Alumni Scholars, which carry an award of \$1,500 for two years. These scholarships are awarded by the UT National Alumni Association, which also sponsors the:

*Andrew D. Holt Scholarships:* Established in 1971 by the UT

National Alumni Association in honor of the late Dr. Andrew D. Holt, president of UT from 1959 to 1970. These awards are available on every UT campus. Eight UTC undergraduate students are allocated four-year Holt Scholarships annually based on academic merit. These are \$4,000 annual awards.

### Department Scholars

Department Scholars are those who receive prizes, grants, and scholarships associated with a particular department or academic program. All recipients are selected by the faculty of the given department, usually on the basis of demonstrated merit or talent.

*Alstom Power Gear Up Scholarships:* Established in 2001 by Alstom Power (formerly Combustion Engineering) for the Gear Up program's scholarships for African-American students at the middle and high school level who plan to major in engineering at UTC. Gear Up assists middle and high schools in Chattanooga's inner city by providing scholarship assistance at the college level before high school graduation.

*Marvin L. Anthony Scholarship:* Established in 1965 by Chicago banker, Marvin L. Anthony, a 1926 chemistry graduate and Phi Delta Sigma member, for students of business or chemistry.

*Clayton Arnold Teacher Training Scholarships:* Established in 1965 by Clayton Arnold, who served as postmaster at Thompson Station, Tenn., for many years and had a strong interest in the education of teachers. Arnold, who died in 1987, gave the University gifts in excess of \$1 million and felt that his gifts would do the most good if made for the training of teachers in public education. UTC receives a portion of the proceeds from the Arnold Endowment for students in the College of Education and Applied Professional Studies.

*Authors and Artists Club Scholarship:* Established in 1988 by the Authors and Artists Club to be awarded on a rotating basis for students with a demonstrated interest in creative writing, art, music, and theatre. The fund was enhanced in 1994 to provide yearly awards in each discipline.

*Judge Suzanne Bailey Scholarship:* Established in 2000 by the Tennessee Juvenile Court Services Association in honor of Judge Bailey who has served in the Hamilton County Juvenile Court since 1990. The award goes to worthy students in the field of Criminal Justice.

*Steve Baras Memorial Scholarship:* Established in 1982 by the family of Steve Baras, a graduate of UTC and a past member of the varsity tennis team, for students who are members of the tennis team or majoring in business.

*Seryl M. Berger Scholarship:* Established in 1984 by Monroe H. Berger, Gertrude Weitzman, Hope Ruslin-Berger, Mitchell W. Berger, James L. Berger, and Lloyd C. Berger in honor of their mother. The award goes to an education major with interest in teaching children with exceptional ability.

*Dr. Bernard W. Benson Memorial Scholarship:* Established in 2001 by Marilyn Benson and friends and colleagues of Dr. Bernard Benson, who taught in the Teacher Preparation Academy and was the first director of the Challenger Center. First consideration given to students majoring in science education.

*BlueCross BlueShield of Tennessee Community Trust Scholarship:* For students majoring in business with preference for those con-

centrating on insurance-related work. Established in 2001, both undergraduate and graduate students are eligible, and recipients must maintain a GPA of 2.75 to continue receiving the scholarship.

*Dr. Jeffrey L. Brown Memorial Scholarship:* Established in 1981 by friends and family of Dr. Jeffrey L. Brown who at the time of his death was associate professor of sociology and anthropology and director of the University's Institute of Archaeology. The scholarship is based on merit and is given to a student who will further advance the academic ideals of conservation and preservation of man's past.

*Martha Butterfield Graduate Nursing Scholarship:* Established in 1996 as the School of Nursing Honors Scholarship, this award was renamed for Professor Butterfield in 2002. The scholarship is for graduate students enrolled in a nurse practitioner or nursing informatics concentration.

*Dr. Wilbur K. Butts Memorial Scholarships:* Established in 1993 through a bequest from the estate of Alfred M. Butts in honor of his late brother, who was a faculty member for many years in the department of biology. The awards go to entering freshmen with demonstrated academic performance who wish to major in biological science.

*Gillie Queener Carter and Roland D. Memorial Scholarship:* Established in 1979 by Professor Emeritus Roland D. Carter and his children, Roland D. Carter Jr. and Yvonne Carter Gardenhire, in memory of Gillie Queener Carter who taught in the Chattanooga public school system for many years, to be awarded to a student majoring in special education.

*Chattanooga Area Personnel Association/Dr. Dan A. Mack Scholarship:* Established by members of the Chattanooga Area Personnel Association, one half of the award goes to a graduate or undergraduate student majoring in human resource management in the College of Business Administration and one half to a graduate student in the industrial organizational psychology in the College of Arts and Sciences. The award in industrial organizational psychology was renamed in 2001 in memory of Dr. Dan Mack, a UTC graduate and faculty member recognized for outstanding performance in his short teaching career at the University.

*Dr. Elizabeth L. Dalton/Kappa Delta Pi Scholarship:* Established in 1996 by William J. Overend, representing the children of Dr. Dalton: Barbara Dalton Warner, David Landress Dalton, Anna Dalton Overend, and Robert Sethur Dalton, and other relatives, colleagues, and friends as a memorial to Elizabeth Dalton, who was a professor at UTC for 12 years, following a 30-year career as a teacher and administrator in the Chattanooga Public Schools. At UTC, she was named Alumni Distinguished Service Professor. She was an alumna of the University of Chattanooga and founding sponsor of Kappa Delta Pi at UTC. She died in 1996. The award goes to students who are declared majors in education who desire to become teachers.

*Harry B. Deuberry Physics Scholarship:* Established in 1985 by Deuberry, president of the class of 1930, to encourage physics majors in assisting faculty with projects.

*Glenn Draper Music Scholarship:* Established in 2002 by friends and colleagues in honor of Dr. Glenn Draper, retired University music professor and choral director whose choirs achieved international recognition through tour performances. The

- scholarship is for music majors.
- Edwin B. Duckett Memorial Scholarship:* Established in 2002 to honor the late Mr. Duckett, a University of Chattanooga engineering physics graduate and retired vice president of Combustion Engineering Inc. Preference is for engineering majors.
- Lillian B. Feinstein Art Scholarship:* Established in 1980 in honor of Lillian B. Feinstein, sculptor, patron of the arts, and longtime supporter of the Hunter Museum and the University Art Department. The scholarship is awarded annually to a student majoring in art.
- James B. Frost and Company, CPA, Scholarship:* Established in 1984 by Frost, head of a local accounting firm and top accounting graduate of the Class of 1956. Preference given to accounting majors.
- Thomas and Louise Morris Garrison Scholarship:* Established in 2002 by David Garrison, head of the UTC English Department, and their daughter-in-law Donna Barger to honor the Garrisons, who believed strongly in higher education. Mrs. Garrison was a longtime elementary school teacher in North Carolina, and Mr. Garrison was employed by American Enka Corp. Preference is given to English majors.
- Thomas Geraghty Scholarship:* Established in 1990 by friends and colleagues of Geraghty, who joined the faculty in 1960 as assistant professor of economics, later serving as director of the computer center, and holding the Clark Chair of Economics when he retired. Preference for this scholarship goes to students majoring in business.
- Sharon Gilley Grant Memorial Scholarship:* Established in 1984 by Claude and Mildred Gilley in memory of their daughter, an honor graduate of UTC. This scholarship is awarded on a competitive basis in either opera or voice.
- Friends of Doug Griffith Scholarship:* Established in 1985 by Wendell Burns and other friends and colleagues. The award is based on need with preference given to graphic design majors.
- Nita T. and Irvine W. Grote Scholarships:* Established in 1976 by the Chemistry Department in memory of Dr. and Mrs. Grote. Grote served as a distinguished member of the chemistry faculty from 1931-1969. Endowment income annually provides scholarships for 12 outstanding chemistry majors.
- Matt Haase Memorial Art Scholarship:* Established in 2002 by the family of student Matt Haase, who died suddenly while a student at UTC. Matt was a graduate of Notre Dame High School, a member of Pi Kappa Phi Fraternity, and active in many outdoor sports and activities. First consideration is given to rising sophomores majoring in art.
- Wayne Hannah/Chattanooga Advertising Federation Scholarship in Graphic Design:* Established in 1985 in memory of Wayne Hannah, a noted radio and television broadcaster in Chattanooga. The scholarship is awarded by the Art Department with the Chattanooga Advertising Federation to a student entering the sophomore year as a major in graphic design.
- Van Henderson Journalism and Mass Communication Scholarship:* Established in 2000 by members of the Chattanooga Press Association to honor the late Van Henderson, longtime Chattanooga newspaperman. Preference is given to junior and senior students majoring in communication and working toward careers in newspaper or magazine journalism.
- Arlie E. Herron Scholarship:* An endowed scholarship for English majors established in 1999 to honor Arlie E. Herron, former professor and head of the Department of English. Herron, who retired in 1998 after 39 years at UTC, is an authority on East Indian culture and American Southern literature. He was instrumental in establishing the highly acclaimed Chattanooga Conference on Southern Literature.
- UTC History Department Scholarship:* Established by Dr. Ronald Moore, Dr. James Ward, Dr. Larry Ingle, Dr. Russell Linnemann, Dr. Tyler Deierhoi, Dr. Richard Rice, Dr. James Russell, Dr. William Wright, and Elke Lawson, 1985-86 faculty members of the history department, to perpetuate the century of high standards of their discipline at this institution, for history majors.
- Hoover-Nofsinger Scholarship:* Established in 1998 by Dr. Sara Hoover and Ms. Norma Nofsinger, adult students who wanted to assist other students majoring in geology. The award is based on successful academic performance or financial need.
- Dr. Karel Hujer Scholarship:* Established in 1990 through a bequest from the estate of Harriet Hunt Hujer in memory of her husband Dr. Karel Hujer, an internationally known astronomer on the faculty of UTC, for students majoring in astronomy, physics, or mathematics.
- Clarence T. Jones Prize in Astronomy:* This scholarship was funded in 1989 through the estate of Arthur H. and Mary Louise Jones in honor of his father. The prize goes to an outstanding physics student who is a rising senior and has excelled in astronomy.
- Mr. & Mrs. Paul J. Kinser Scholarship:* Established in 1986 by Paul J. Kinser, University of Tennessee trustee, for juniors or seniors enrolled in the industrial engineering program with a 3.0 G.P.A. or better and financial need.
- Norbert Koch Scholarships:* Two funds established in 1979 by gifts from former students, colleagues, and citizens of the Chattanooga community in honor of Dr. Norbert Koch, professor of engineering, on the occasion of his retirement after 32 years of dedicated service to the University to be awarded annually to a qualified and deserving engineering student.
- Joyce Litchford Scholarships:* Established in 1976 by Dr. R. Gary Litchford, a member of the biology faculty, in memory of his wife, for scholarships to a senior premedical student and to a junior or senior member of the wrestling team.
- Christine B. Little Nursing Scholarship:* Established in 1997 by Mrs. Little, Class of 1982, who returned to school as an adult and received her nursing degree at age 57, this award gives preference to adult junior and senior women returning to school to complete degree requirements in nursing.
- Mr. and Mrs. Charles W. Loftin Scholarships:* Established in 1983 by Amy Loftin in memory of her parents, Mr. and Mrs. Charles W. Loftin. The scholarships are awarded to outstanding students from the Department of Theatre and Speech.
- Winston L. Massey Scholarship:* Established in 1973 by the University of Chattanooga Foundation in honor of Massey, Guerry professor of mathematics, on the occasion of his retirement after 40 years of service to his alma mater, for an outstanding upperclassman majoring in mathematics.
- Dr. William H. Masterson Memorial Scholarship:* Established by the family of the eleventh president of the University of

- Chattanooga and first chancellor of UTC, this scholarship honors Dr. William H. Masterson who died March 3, 1983.
- Mary Alice McBrayer Memorial Scholarship*: Established in 1993 by Brig. Gen. Madison M. McBrayer (Retired, U.S. Air Force) class of 1941, and his three sons: Gregory S., Class of 1969, Kenneth and Steven, in honor of their wife and mother, who died in 1992. The award goes to sophomores or above majoring in engineering.
- Amy Mildram Scholarship*: Established for seniors in physical therapy in 1991 by friends and colleagues in honor of the widow of former UTC professor of philosophy and religion, Dr. Robert Mildram. Amy Mildram is a retired physical therapist with T.C. Thompson Children's Hospital and was an advocate of bringing a physical therapy program to UTC.
- Burkett Miller Scholarships*: Established in 1954 by a generous gift from Miller, a leading Chattanooga attorney and philanthropist, to aid needy and worthy students.
- Miller/Schwartz Scholarship*: Established in June 1991 by Eleanor Miller Schwartz, member of the Chancellor's Roundtable, and her husband, Dr. Harold Schwartz, in honor of their parents, for students majoring in special education.
- School of Nursing Honors Scholarship*: Established in 1996 in recognition of the 25th anniversary of the UTC School of Nursing and as a 21st Century Campaign gift to the University by the nursing faculty, staff and other friends of the School of Nursing, the award gives preference to a minor student or a student who demonstrates financial need and has maintained a 3.5 GPA and above average clinical evaluations at the junior and senior level.
- Paramedical Careers Scholarship of the Women's Auxiliary to the Chattanooga and Hamilton County Medical Society, Inc.*: Endowed in 1987 after many years of annual funding, this scholarship provides financial assistance for students pursuing health-related careers.
- Ruth Clark Perry Scholarship*: Established in 1969 by Mrs. Leonora Miller Seids of Perry, Okla., in memory of her friend, UC dean of women from 1924 to 1943 and professor of mathematics from 1922 until her death in 1955, to be awarded to an upper-classwoman majoring in mathematics.
- Physical Therapy Scholarship*: Established in 2000 by two anonymous alumni of UT Knoxville and Chattanooga, and their daughter for the benefit of graduate students majoring in physical therapy.
- Physical Therapy Alumni Scholarship*: Established in 1994 by the faculty, friends, and alumni of the physical therapy program for students in the physical therapy program.
- Chuck Pierce Scholarship*: Established in 2000 by friends of the late Charles "Chuck" Pierce, son of Charles and Rickie Pierce, UTC alumni and active volunteers. Mr. Pierce has served as Alumni Council president, and Mrs. Pierce was formerly on the faculty. Chuck was an outstanding Baylor School graduate and a Morehead Scholar at the University of North Carolina. His premature death occurred in 1999 at age 31. A sister, Lynn Pierce Mulligan, also survives him.
- Oralia Preble-Niemi Foreign Language Scholarship*: Established in 2003 by an anonymous donor to honor Dr. Preble-Niemi, professor and head of the Foreign Language and Literature Department at UTC. The scholarship is awarded to a junior or higher classmen with preference given to non-native speakers of Spanish.
- Murray Raney Chemistry Scholarship*: Established in 1989 by W.R. Grace and Company in memory of Murray Raney, who died in 1966 and was a distinguished Chattanooga who gained worldwide fame among chemists for his invention of metal catalysts, the basis for the continuing activity of W.R. Grace and Company. To stimulate creative endeavors, this award goes to a chemistry major.
- Dr. E.E. Reisman Jr. Memorial Nursing Scholarship*: Established in 1981 under the terms of the will of Dr. Reisman, well-known Chattanooga physician and longtime supporter of the University, and augmented at his death by a memorial gift from his family. The scholarship is to be awarded annually to an outstanding nursing student.
- Arthur Rivituso Scholarship in Piano*: Established in 1991 as a memorial to Arthur W. Rivituso who retired and later died in 1991 after 22 years as a professor of piano and artist-in-residence, by his niece Carol Smith and other friends, colleagues and relatives, for advanced piano students.
- Dr. J. Eric Schonblom Scholarship*: Established in 1997 by friends, colleagues, and family of Dr. Schonblom in honor of his retirement from the faculty of the College of Engineering and Computer Science. Dr. Schonblom held the title of UC Foundation Professor. The awards go to students majoring in engineering.
- Edmonia J. Simmons Endowed Scholarship in Music*: Established in 1991 by friends and colleagues of Mrs. Simmons, a distinguished musician and community leader for music or music education majors with preference given to minority students.
- Carol Smith Sanders Memorial Scholarship*: Established in 1991 by friends, colleagues and family of Carol Smith Sanders, daughter of Judge Dixie Smith, '42, who earned her master's degree from UTC and at the time of her death was a behavior management specialist in Hamilton County Schools. This award goes to students in the master's program in special education.
- Calvin U. Smith Jr./G. H. Miller Smith Scholarships*: Established in 1965 by Mr. and Mrs. George Blackwell Smith in honor of their nephew, Calvin U. Smith Jr. (1940-1963), and of their son, G.H. Miller Smith (1921-1944), both gallant young Chattanooga who died in the service of the armed forces of their country.
- DeForest Spencer Scholarship*: A 1915 graduate of the University of Chattanooga, DeForest Spencer established this scholarship endowment in 1986 to assist a needy student pursuing an undergraduate B.A. degree.
- Iphigene Ochs Sulzberger Scholarship in American History*: This scholarship, funded in 1986 by Ruth Sulzberger Holmberg in honor of her mother, Iphigene Ochs Sulzberger, daughter of Adolph Ochs, former publisher of the Chattanooga Times and founder of the New York Times, provides scholarships for deserving full or part-time students working toward a degree in American History or a related area.
- Dr. Charles Robert Thomas Scholarship*: Established under terms of the will of Dr. Thomas, well-loved Chattanooga physician who died in 1968, to assist needy students in pre-medicine.
- Thomasson Premedical Scholarship*: Established in 1979 by Mr. and Mrs. Eugene M. Thomasson to be awarded to a qualified and deserving undergraduate student who is pursuing premedical studies.



*LaVerne Thompson Memorial Scholarship:* Established in 1987 by Dr. Jack Thompson, professor and head of computer science, and his children in memory of his wife, a former UTC faculty member. Preference is given to female students majoring in computer science.

*Marian Jones Tyte Scholarship:* Marian Jones Tyte, a member of the Class of 1930 at the University of Chattanooga, had a strong interest as an undergraduate in theater and English. Her husband, The Rev. Wilbur H. Tyte, wished to establish a scholarship fund in his wife's memory, to make it possible for an undergraduate or graduate student to complete a degree in either English or theater. Established in 2001.

*The Andy Walker, Jr. Award:* Established in 2005 by the family of Andy Walker, Jr. in commemoration of his life and as a tribute to their husband and father. It is awarded annually by the College of Business to the outstanding senior student in Finance. Mr. Walker was a Chattanooga native who graduated from the University of Chattanooga in 1957. He was a career banker who made his home in Athens, Tennessee.

*Jill Wheeler Memorial Scholarship:* Established as a memorial to Jill Wheeler, class of 1979, UTC School of Nursing, who was killed in an automobile accident in 1980. This endowment is funded by Jill's parents, Mr. and Mrs. Jack M. Wheeler, and other friends and colleagues. The award goes to a senior nursing student.

### Special Qualification Scholars

Listed here are scholarships awarded by the University to students with special qualifications. These awards are typically given to those who live in a specific area, belong to a minority group, or are the children of the employees of a particular company.

*UTC Alumni Council Scholarship:* Established in 1995 by members of the UTC Alumni Council, other alumni, and friends of the University. The scholarship is awarded to a junior or senior who holds a 3.0 GPA and has demonstrated commitment to community or University service. Preference may be given to the dependent child of a UTC graduate.

*James William (Bill) Barker Scholarship:* Established in 1960 by friends of fraternity brothers of the Pi Kappa Alpha who died four years after his graduation in 1949.

*Alvin G. and Sally M. Beaman Scholarships:* Established in 1990 by the Beamans, Nashvillians representing the Beaman Companies, at three UT campuses: Chattanooga, Knoxville, and Martin. Preference is given to the children or grandchildren of Beaman Bottling Company or Shelbyville Bottling employees or former employees. Awards are based on academic achievement and financial need.

*M.W. Brabham Scholarship:* Established in 1963 by the Brabham-Martin Bible Class of the Centenary Methodist Church in memory of its esteemed member, the longtime executive secretary of the Chattanooga Community Chest.

*David M. Brammer Memorial Scholarship:* Established in the name of the Sigma Chi fraternity brother who died in 1983, this scholarship was established with the contributions of friends and family and is available to any Sigma Chi fraternity member who holds a 3.0 GPA and who gives sufficient service to the local fraternity.

*Miriam Ash Brown Memorial Scholarship:* Established in 1997 by

the estate of Miriam Ash Brown in honor of her grandchildren: Matthew Harrison Brown, Benton Andrew Savage, Louise Brown Botts, and Emily Lane Savage. Mrs. Brown's husband, Kenneth H. Brown, served on the UT Development Council, and a daughter and son-in-law were graduates. Kenneth Brown and his father founded Brown Stove Works Inc. The award goes to juniors in the College of Business at either the Chattanooga or Knoxville campus who are residents of Bradley County and who have transferred from Cleveland State Community College, where the Browns' son-in-law was a member of the original faculty in business.

*Buster Brown Apparel Scholarships:* Established in 1990 by Buster Brown Apparel Inc. in order to provide scholarship assistance for employees of Buster Brown and Weather Tamer Inc. and their children.

*Brown Stove Works Inc. Scholarships:* Established in 1997 by Brown Stove Works Inc. of Cleveland in honor of its employees and in appreciation for their efforts in making these awards possible. The awards give first preference to employees and their descendants or transfer students from Cleveland State Community College and then residents of Bradley County, followed by Meigs, Polk, or McMinn counties.

*St. Augustine "Augie" Cranford, Jr. Memorial Scholarship:* Established in 1994 as a memorial to Augie Cranford, director of the UTC Arena security at the time of his death, for minority students from the Chattanooga area majoring in criminal justice or education.

*Louise G. Currey Environmental Studies Scholarship:* Established in 1990 by her children, Bradley Currey Jr., Louise Nicholls, Frederick Currey, Hal Currey, and Robert Currey, and other friends and family. Mrs. Currey was one of the founders and a life trustee of the Nature Conservancy.

*John B. and Becky R. Dethero Scholarship:* Established in 1989 by Dethero, class of 1962, and his wife in their desire to provide educational opportunities to needy students. Preference is given to students who have participated in Career Beginnings at UTC.

*Thomas O. Duff Scholarship:* Established in 1956 by Thomas Duff, business and civic leader, patron and trustee of the University, to be augmented at his death by gifts from family and friends. Preference is to be given to students with learning disabilities.

*Executive Women International (ASIST)/Jean Bradford Memorial Scholarship:* Established in 1996 by the Chattanooga Chapter of Executive Women International (ASIST) in memory of former member Jean (Mrs. James) Bradford, who at the time of her death in December 1995 was the administrative aide of Chancellor Frederick W. Obear, this award assists women, particularly displaced homemakers and single mothers, returning to school in order to enhance their career opportunities.

*Falk, Traylor, & Davis (FTD) Minority Scholarship:* Established in 1993 by Grover Davis, a former board member and alumnus of Chattanooga City College, in honor of Dr. Horace Traylor, president of Chattanooga City/Zion College at the time of the merger with UT and UC and the first minority graduate of UTC, and the late Mary Weidner Falk, one of the founders of Zion College, where she served as registrar and business manager. Preference for the award goes to minority students who accept a moral obli-

- gation to repay the award to the endowment.
- Fincannon Scholarship*: Established in 1984 by Al Fincannon. The scholarship is awarded upon the recommendation of the UTC Scholarship Committee with preference given to widowed or previously married women.
- W. Max and Margaret Finley Scholarship*: UC alumnus W. Max Finley and his wife Margaret established this fund in 1986 for the benefit of adult students entering or reentering college as full- or part-time students working toward either undergraduate or graduate degrees. Preference is given to single parents, female students, students with declared majors in business, and students from Hamilton County and the greater Chattanooga area, including Georgia and northeast Alabama.
- Asa Van Frazier Memorial Scholarship*: Established in 1993 by Pauline W. Frazier and William Frazier in memory of their husband and father, who spent 37 years in the teaching profession in Hamilton County, retiring in 1975 as principal of Lakeside Elementary. Preference goes to students who are interested in teaching and who attend St. James A.M.E. Church.
- Douglas Gumerman/Heil Trailer International Scholarship*: Established in 1995 by the Heil Trailer Company in memory of their gifted salesman Doug Gumerman, this scholarship is for children of Heil Trailer Company employees.
- Eleanor M. Hodges Scholarship*: Established in 1988 by the president and secretary of Lawson Electric, Walter P. Hodges, in honor of his wife, Eleanor. The Hodgeses are parents of a 1978 UTC graduate. All other qualifications and considerations, academic and financial, being equal, first consideration for this award is given to graduates of East Ridge High School.
- Ida Mae "Dutch" Holland Scholarship*: Scholarship originally begun by John H. "Hank" May and Josten's of Takoma Park, Md., in 1980 was endowed in 1993 by members and friends of the Lambda Chi Alpha Fraternity Alumni Chapter in honor of the Zeta Phi Zeta Chapter housemother for 35 years. The award goes to active members of the UTC chapter based on scholarship and need.
- John Earlon Kerr Scholarship*: Established in 1959 with a bequest from Lillian Webb Kerr, longtime East Lake Grammar School teacher, in memory of her son, a student at Vanderbilt University at the time of his death in 1915.
- Leba and Moses Lebovitz Scholarships*: Established in 1989 by Moses Lebovitz, UC Class of '28, charter member of the UC Foundation, and chairman of the board of CBL, Inc., one of the largest developers of shopping centers in the United States, with preference given to Jewish students. Enhanced in 1994 to include extra provision for exchange of students between UTC and the University of Haifa, Israel.
- Lookout Post 1289 Veterans of Foreign Wars Scholarship*: Established in 1986 by the Lookout Post 1289, Veterans of Foreign Wars, this scholarship was intended primarily for veterans returning to school, students in the ROTC program, or students whose patriotism is strong. Because no ROTC program existed at UTC, the agreement was amended in 2002 to make the award to a member of the men's wrestling team who shows strong patriotism to the United States.
- Dr. Littleton H. Mason Memorial Scholarship*: Established in 1989 by his widow, Ruth, and other friends in memory of Mason, assistant dean of students. Preference given to minority students from low income families from Memphis.

*Billy C. Perry, Jr. Memorial Scholarship*: Established in 1990 by Billy Perry's fellow UTC cheerleading squad members and advisor Betty Tucker, this scholarship is for entering freshmen who have been high school cheerleaders or team managers.

*Sports Barn, Inc./Alex Guerry Memorial Scholarships*: Established in 1991 by the stockholders and directors of the Sports Barn, Inc. to honor the founder and president of the Sports Barn, Inc. with preference going to students who are employees of the Sports Barn.

*Mary Stanfill Home Economics 4-H Scholarship*: Established in 1996 with a bequest from Ms. Stanfill, extension home economics agent in Centerville, TN, this award is available to home economics or human ecology majors at any of the UT campuses on the basis of academic achievement, leadership, and participation in 4-H Club activities and 4-H home economics projects.

*Wheland Foundry Environment Scholarship*: Established in 1995 by Wheland Foundry for graduates of Chattanooga's Howard High School of Academics & Technology who major in environmental studies.

### Athletic Scholarships

The University enjoys a number of endowed scholarships to support the students in its athletic programs. Awards are determined by the staff of the University's various athletic programs in accordance with the conditions of the scholarships listed below:

*Thomas G. Bartlett, Jr. Scholarship*: Established in 1995 to honor Tommy Bartlett, UTC men's and women's tennis coach for many years, for student-athletes in the women's tennis program.

*Morton Neal Center Athletic Scholarship*: Established in 1978 by Center, a business and civic leader, to be awarded to a qualified and deserving student athlete.

*Fellowship of Christian Athletes*: Established in 1999 by a group of donors for awards to students on varsity athletic teams who are members of FCA and who exemplify the mission and Christian principles of the Fellowship of Christian Athletes.

*Edgar M. Jolley Athletic Grant-In-Aid Scholarship*: Established in 1994 by Charles B. Lebovitz and family and CBL & Associates in honor of Mr. Jolley, a Mocs athletics fan and alumnus on the occasion of his retirement. The award goes to a student athlete.

*Kelley-Mayse Scholarship*: Established in 1996 by Jack E. Kelley, preference for this award goes to a student athlete in the men's basketball program or to children of Mayse Construction Company employees.

*T.R. McAfee Memorial Scholarship*: Established in 1979 and enhanced starting in 1980 by friends who hosted an annual T.R. McAfee Golf Tournament to raise funds for an endowed golf scholarship in memory of T.R. McAfee Jr., former UTC student and member of the varsity golf team.

*James W. Morgan Wrestling Scholarship*: Established in 1996 by friends, family, students, and colleagues of Morgan to recognize his contributions to the wrestling program at UTC for which he served as coach from 1968 to 1984. Named "Coach of the Year" eight times, Morgan also led his wrestling Mocs to numerous championships. The award goes to a team member who has demonstrated successful academic performance.

*Scrappy Moore Memorial Scholarship*: Established in 1971 by gifts

from family and friends of longtime, distinguished head football coach and athletic director A.C. "Scrappy" Moore Sr., who served the University from 1926-1971. Scholarship preference is given to a varsity football player who exemplifies the ideals of leadership, scholarship, and service.

*Overmyer Athletic Scholarships:* Established in 1969 by longtime trustee Donald H. Overmyer, class of 1930, and his wife, Ruth E. Overmyer, class of 1932, to provide a minimum of four scholarships to be divided among candidates for the varsity football and the varsity swimming teams as recommended by the head coaches. If there is no swimming team, members of the baseball team shall receive them, or if neither, they shall go to football.

*U.G. and William E. Paschal Scholarships:* Established by William Ernest Paschal, class of 1914, retired Akron rubber executive, in memory of his father, the Rev. U.G. Paschal, class of 1896. The first scholarship was given in 1965 for physical education majors, the second in 1967 for varsity football players.

*William and Susan Pettway Gift to Athletics:* Established with a gift from the estate of William D. Pettway Jr., who died in 1993. Pettway was a fan of intercollegiate athletic competition, an athlete, and trustee of the UC Foundation, and his family has a long history of involvement with the University. Preference for the award goes to varsity football players.

*Joseph B. and Barbara Waters Scholarships:* Established in 1999 with a planned gift by Joe and Barbara Waters, loyal supporters of UTC athletics. A minimum of five scholarships are to be awarded annually in football, men's basketball, women's basketball, women's softball and women's volleyball. Awards are on the basis of athletic and academic performance.

*Lewis West Oehmig Golf Scholarship:* Established in 1993 by the Westend Foundation as its final gift to UTC in honor of West for the purpose of endowing the two top positions on the golf team in the names of two nationally known Chattanooga golf champions, Lewis West Oehmig and Gibby Gilbert.

*Woodrow WOLFORD, Sr., Scholarship:* Established in 1996 by James L. "Bucky" Wolford, alumnus and former football standout, in honor of his father, this award goes to a student athlete who is a member of the varsity football team with preference given to running backs or defensive backs.

## Grants

### Federal Pell Grants

All undergraduate students applying for institutional assistance based on a financial need should apply for this federal grant program. Other forms of financial assistance will not be extended to a student until eligibility for the Pell Grant has been determined. To apply, the student must submit the Free Application for Federal Student Aid ([www.fafsa.ed.gov](http://www.fafsa.ed.gov)) to the U.S. Department of Education. Students must list UTC on the FAFSA for the Financial Aid Office to review an electronic copy of their application.

Pell Grant awards range from a maximum of \$4,050 to a minimum of \$400. The amount of the award is based on financial need and the number of hours enrolled. Regulations and provisions of the Pell Grant Program are subject to change by federal legislative action.

### Federal Supplemental Educational Opportunity Grants

This is a program of federal grants available to entering freshman,

transfer, and enrolled undergraduate students with high financial need as determined by the Free Application for Federal Student Aid. Awards range from \$200 to \$500.

### Student Employment

The University participates in the Federal Work-Study Program administered by the U.S. Department of Education. To be eligible for the Federal Work-Study Program, a student must be accepted for admission or be in enrolled with good standing. A student's eligibility further depends upon the need for employment to defray college expenses. On-campus part-time work opportunities are available in the various departments, offices, and agencies of the University. Off-campus work in community service organizations may also be available through the Federal Community Service Learning Program. The Free Application for Federal Student Aid is required.

Employment opportunities provided under the institutional student employment program are offered to students who indicate a desire to work and who do not meet the financial need requirements for the Federal Work-Study Program. The UTC Placement and Student Employment Center maintains vacant position information for this type of on-campus student employment. Institutional work is funded by the University.

Part-time employment, handled by the Job Location and Development Program in the Financial Aid Office and the UTC Placement and Student Employment Center, is also available in private businesses, corporations, and industries in the Chattanooga area. To be eligible for this part-time employment, the student must meet the requirements established by the employing agency.

## Student Loans

### Federal Robert Stafford Student Loans

Subsidized Stafford loans may be available through banks, credit unions and savings and loan associations to help meet educational expenses. To establish need for these loans, students must file the Free Application for Federal Student Aid. To receive the loan, a student must be admitted to the University or be enrolled with good academic and financial aid standing. Interest on such loans is paid by the federal government while the student is in school. Repayment begins six months after graduation or withdrawal from UTC. The maximum amount of a loan to an undergraduate in a 12-month period is \$2,625 for freshmen; \$3,500 for sophomores; \$5,500 for juniors and seniors; and \$8,500 per year for graduate study.

Students not eligible for subsidized Stafford Loans may borrow through non-need-based Stafford Loan. The annual maximum amounts are the same as with the need based loans. These unsubsidized Stafford Loans require the student to be responsible for the interest during in-school and deferment periods. Total loans outstanding may not exceed \$23,000 for the undergraduate or \$138,500 for the undergraduate, graduate and professional student.

Complete information is available through the UTC Financial Aid Office which has a list of recommended lenders who participate in the Stafford Loan program.

### Federal Parents Loan for Undergraduate Students (PLUS)

Federal PLUS loans enable parents with good credit histories to borrow for each dependent child who is enrolled at least half-time. These loans, like Federal Stafford Loans, are made by a lender such as a bank, credit union, or saving and loan association. The yearly loan limit is the student's cost of education minus any estimated financial aid the student receives.

For PLUS loans first disbursed on or after July 1, 1994, the interest rate will be variable, but not higher than 9 percent.

### **Federal Perkins Loans**

Long term loans at five percent interest are available. This program is funded through the U.S. Department of Education. Proven financial need determines eligibility. To establish need for this loan, the student must file the Free Application for Federal Student Aid. Loan repayment and interest on Perkins Student Loans are deferred until after graduation or as long as the individual remains in half-time attendance at an eligible accredited institution of higher education. Repayment may also be deferred for up to three years for special circumstances as outlined in the Higher Education Amendments of 1992. The maximum repayment period is normally 10 years with the current minimum annual repayment of \$480.

Upon making a properly documented written request, 100 percent of the Federal Perkins Student Loan may be canceled if the borrower performs full-time service in one of the following: teacher in an eligible elementary or secondary school system with a high concentration of students from low income families, special education teacher, teacher in a field determined to be a shortage area by the State Department of Education, nurse or medical technician providing health care services, employee of an eligible public or private nonprofit child or family service agency who assist high risk children from low income communities and law enforcement/corrections officers. Eligible loans will be canceled at the rates of 15 percent of the original principal loan amount for each of the first and second years; 20 percent of the original principal loan amount for each of the third and fourth years; and 30 percent of the original principal loan amount for the fifth year. A full-time staff member in the educational part of a preschool program carried out under the Head Start Act may qualify for up to 100 percent of the original principal loan amount canceled at the rate of 15 percent per year. A full-time service volunteer may receive up to 70 percent cancellation for eligible volunteer service at the rates of 15 percent for each of the first and second years and 20 percent for each of the third and fourth years.

An undergraduate may be extended a maximum loan of \$4,000 per year up to an accumulated loan total of \$20,000. Graduate or professional students may borrow up to \$6,000 per year for an accumulated loan total of \$40,000. Due to limited funding, UTC awards all of its Perkins Loans to undergraduate students. The above regulations and provisions of the Federal Perkins Loan Program are subject to change by federal legislative action.

### **Student Loan Funds**

*Jack Bretske Memorial Loan Fund:* Established in 2003 by Herbert L. Oakes, Sr. to honor former comptroller Mr. Jack Bretske who

enabled Mr. Oakes to complete his college degree through a student loan. Loans are awarded to entering or re-entering students in good academic standing who have an emergency, and must be repaid when the student is gainfully employed.

## **Other Assistance**

### **Tennessee Student Assistance Corporation (TSAC) Grants**

Grants are made by the Tennessee Student Assistance Corporation to residents of the State of Tennessee who show a financial need as supported by the Free Application for Federal Student Aid. TSAC awards range from an annual maximum of \$1,986 to a minimum of \$1,026. Students should apply before March 1. The Free Application for Federal Student Aid is used to apply for this grant.

### **Georgia Tuition Equalization Grant**

Grants are made by the Georgia Finance Authority for approximately \$400 per semester to Georgia residents who are juniors or seniors at UTC. Students must live within 50 miles of UTC and more than 50 miles from a four-year Georgia educational institution. Full-time enrollment at UTC is required, and the student must have completed 60 credit hours. Applications are available in the UTC Financial Aid Office and must be filed by the last day to register for classes in any term.

### **Eligibility for Continuation of Financial Assistance**

As a general rule, students are eligible to continue on financial assistance at UTC if they meet UTC continuation standards (page 25), do not abuse their right to receive financial assistance and make satisfactory progress in their program of study. A separate continuation scale for Provost's, Chancellor's and Dean's scholarships is published each year.

Students are suspended from financial assistance immediately in any term that they make no academic progress or are academically suspended or dismissed. Students who are enrolled full time must earn at least 20 hours per academic year to be considered making satisfactory progress in a program. Scholarship students must complete 24 hours. The required hours of progress are prorated for part-time students and students in graduate programs. Students who do not make progress will not be awarded or disbursed financial aid. Also, students who have attempted more than 150% of the hours required for graduation in their program are not eligible for financial aid. For complete details on suspension, non-renewal and appeal, contact the Financial Aid Office.

## **Application Procedures**

Because a student's family resources can decrease and increase significantly from year to year, the University requires each student to apply annually for need-based financial aid. Students currently receiving scholarships will be automatically reviewed for renewal according to the specific scholarship renewal criteria.

1. Although applications will be processed throughout the year, students should complete and submit the Free Application for Federal Student Aid no later than February 15 in order to meet the April 1 priority deadline for fall semester.

2. Entering freshmen applying for scholarships only need to complete the application for undergraduate admission and academic scholarships and be admitted to the University by February 1. Students currently receiving scholarships are not required to submit the Application for Scholarship. Students applying only for academic merit scholarships are not required to complete a financial statement. However, the financial statement is recommended.
3. Students should have begun the process for admission to the University prior to or at the same time as applying for financial aid.
4. Tennessee residents should apply for the Tennessee Student Assistance Award if requesting aid based on financial need.
5. The Financial Aid Notification Letter is the UTC award letter which states the amount and types of financial aid awarded.
6. Students must make satisfactory progress toward the degree to continue on financial aid. There are two standards of progress the student must meet. First, students must be eligible to continue according to the University's "Standards of Continuation" published in the catalog. Second, students must earn a required number of hours each year based on their enrollment as a part-time or full-time student. A thorough explanation of this standard and a set of guidelines may be obtained in UTC's Financial Aid Office. A separate continuation scale for Provost's, Chancellor's and Dean's scholarships is published each year.
7. If students expect to have funds available for fee payment, they must complete all procedures, submit necessary documents, and accept their awards by July 1 for fall semester and November 1 for spring semester.

### Application Process

1. Complete and submit the Free Application for Federal Student Aid (FAFSA, [www.fafsa.ed.gov](http://www.fafsa.ed.gov)). There is no fee required. Be sure to include UTC and its Title IV code, "003529" in the appropriate section of the Free Application for Federal Student Aid. Allow 4-6 weeks for processing.
2. An institutional information form is required of all students. This document may be obtained from the UTC Financial Aid Office.
3. A student verification form, appropriate federal tax returns, and W2 forms may be requested. These documents should be submitted only if requested.
4. Other forms may be required to complete the application process. Return all requested forms as soon as possible.

### Award Process

The award process occurs 4-6 weeks following receipt of all requested forms.

5. Financial Aid Office awards aid for student and sends student a "Financial Aid Notification" award letter.

### Check Authorization and Disbursement

Normally funds for students are authorized by the UTC Financial Aid Office and disbursed by the UTC Bursar's Office.

6. Disbursement of Stafford Loans occur during designated fee

collection days or as soon thereafter as possible. First-time borrowers at UTC must complete an entrance interview in order to receive loan funds. First time freshmen loan proceeds will be disbursed 30 days after the first day of classes.

## Refund Process

### Refund Process For Title IV Federal Student Financial Aid

Students who receive Federal Title IV assistance will be subject to a different refund calculation if they withdraw from all classes. Students who withdraw during the first 60 percent of the term will have a refund calculated under the Return of Title IV Funds Refund Policy. The percentage of the refund will equal the percentage remaining in the term at the time that the student withdraws.

All refunds caused by a student withdrawing from classes will be returned to the appropriate financial aid account(s) or lender in the case of student loans. Refunds will be credited/returned, within 30 days, to the appropriate student financial aid program(s) in the order listed:

1. Unsubsidized Federal Stafford Loan
2. Subsidized Federal Stafford Loan
3. Federal Perkins Loan
4. Federal Plus Loan
5. Federal Pell Grant
6. FSEOG
7. Other SFA Programs
8. Other federal, state, private, or institutional sources of aid
9. The student

Note: UTC reserves the right to bill the student for any return of Title IV refund amount that exceeds the university's published institutional refund policy.

### Repayments

Students who receive federal student financial assistance funds in excess of their direct cost (i.e. maintenance, tuition, room) may be required to repay funds to certain Title IV programs.

1. Federal Pell Grant
2. FSEOG
3. Other SFA Programs
4. Other federal, state, private, or institutional sources of aid

### General Refund Information

Students who stop attending classes prior to the completion of the term should read carefully the information on unofficial withdrawals. All refund/repayment calculations are completed within 30 days of the official withdrawal date, and all funds are returned to the appropriate programs.

Students must present their official withdrawal/drop forms in person to the Office of Student Financial Aid to commence the withdrawal process. In the event this is not plausible, the student must communicate the circumstances surrounding their inability to present the required form. Failure to officially withdraw will result in the University applying its own administrative procedures for determining the unofficial withdrawal date.

All questions, concerns, or appeals of refund/repayment decisions should be addressed to: Director of Financial Aid, University of Tennessee at Chattanooga, v615 McCallie Avenue, Chattanooga, TN 37403-2598.

**Information and Assistance**

The Financial Aid Office provides assistance with the financial aid application process and financial budgeting. Also, students or parents may request a review of the determination of the student's need and award. For applications and further information on financial aid, call or write the UTC Financial Aid Office, The University of Tennessee at Chattanooga, 615 McCallie Avenue, Chattanooga, Tennessee 37403, (423) 425-4677.

# STUDENT FEES AND EXPENSES

Tuition is free to residents of Tennessee. Out-of-state students must pay the tuition charge. A student's residence is determined primarily by the residence of the student's parents. Exceptions including guardianship, are given special consideration and are determined on the basis of the particular circumstances in each case. Any student who is classified as an out-of-state student may, at any time, request that a residence classification be reconsidered. When additional information concerning a student's residence classification is available, the student should provide the Office of Undergraduate Admissions (or Graduate Office for graduate students) with this information for a review of residence status.

**Tuition and Maintenance Fees**

The following fees were accurate for the 2004-05 academic year. Fees for academic year 2005-2006 are not yet set.

**In-state undergraduate/special student maintenance fees**

Per Semester Hour	\$138
Maximum Charge	\$1,647

**In-state graduate student maintenance fees**

Per Semester Hour	\$221
Maximum Charge	\$1,972

**Out-of-state undergraduate/special student tuition/maintenance fees**

Per Semester Hour	\$482
Maximum Charge	\$5,775

**Out-of-state graduate student tuition/maintenance fees**

Per Semester Hour	\$680
Maximum Charge	\$6,100

**Late Registration Fee**

All students who register after the first official day of classes will be charged a \$50 late fee.

**Debt Service Fee**

All students registered will be assessed a debt service fee.

Per Semester Hour	\$9
Maximum Charge	\$110

**Program and Service Fee**

All students registered will be assessed a program and service fee.

Per Semester Hour	\$12
Maximum Charge	\$140

**Technology Fee**

All students registered will be assessed a technology fee.

Per Semester Hour	\$12
Maximum Charge	\$100

**Facilities Fee**

All students registered will be assessed a facilities fee.

Per Semester	\$50
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Student fees are established by The University of Tennessee Board of Trustees and are subject to change without notice.

**Auditor's Fees**

Fees for courses being audited are the same as those for courses taken for credit. Auditors do not take examinations, receive credit or grades, and may or may not participate in the class activities as determined by the instructor.

**Fees for Students with Disabilities**

Tennessee residents who are physician-certified with 100 percent total disability, and meet admission requirements, may enroll for credit for a fee of \$7.50 per semester hour to a maximum of \$75 per semester.

Tennessee residents who are physician-certified with 100 percent total disability may audit classes on a space available basis at the University without paying a fee.

For fee information call the Bursar's office at (423) 425-4781.

**Listener's Fee**

Tennessee residents considering entering or returning to the University may "listen" in academic courses for a fee of \$10 per course without additional obligations. Participation in this program is limited to two courses per semester for a maximum of two semesters. Only individuals who have not received a baccalaureate degree and who have not had any college courses in the previous five years may participate. For more information call the Bursar's Office at (423) 425-4781.

**Music Fee**

In addition to the credit hour rate, a music fee is assessed for instructional courses. The fee is due at the regular fee payment dates. The fees are:

Per one-half hour instruction	\$60
Per one hour instruction	\$120

**Post-baccalaureate Fees**

Post-baccalaureate students pay fees at the undergraduate rate.

**Senior Citizens Fees**

Tennessee residents who become 65 years of age or older during the academic semester when they begin classes and who meet admission requirements, may enroll for credit for a fee of \$7.50 per semester hour to a maximum of \$75 per semester.

Tennessee residents who become 60 years of age or older during the academic semester when they begin classes may audit

classes on a space available basis at the University without paying a fee.

For fee information, call the Bursar's Office at (423) 425-4781.

### Summer Terms

Fees for the summer sessions are the same as for regular semesters.

### Veterans' Fees

(All veterans must confirm attendance by deadline date.)

Service members, veterans, and dependents of veterans who are eligible beneficiaries of U.S. Department of Veterans Affairs education benefits or other governmentally funded educational assistance, subject to the conditions and guidelines set forth in Tennessee Code Annotated 49-7-104 as amended, may elect, upon formal application, to defer payment of required tuition and fees until the final day of the term for which the deferment has been requested. Application for the deferment must be made no later than 14 days after the beginning of the term, and the amount of the deferment shall not exceed the total monetary benefits to be received for the term. Students who have been granted deferments are expected to make timely payments on their outstanding tuition and fees balance once education benefits are being delivered, and eligibility for such deferment shall terminate if the student fails to abide by any applicable rule or regulation, or to act in good faith in making timely payments. This notice is published pursuant to Public Chapter 279, Acts of 2003, effective July 1, 2003.

### Other Fees

**Application Fee** ..... \$25

A nonrefundable fee payable at the time application is made.

### Returned Check Fee

Any checks received by the University which fail to clear the bank will incur a service charge of \$15. In addition to the service charge, a check written to cover tuition, dorm, and fees which fails to clear the bank will incur the appropriate late fee in effect at the time the student redeems the check. Check writing privileges will be revoked for those students writing three or more returned checks to the University.

### Housing

Room rents vary from \$1,400 to \$1,900 per semester according to the accommodations available. A \$25 nonrefundable housing application fee is required from students applying for housing. In addition, a \$225 advance payment is required for fall semester. Fees not paid on regular fee payment will incur a late fee.

### Student Dining Plans

All residents will be assessed a Dining Membership. Residents are required to participate in a dining membership plan regardless of whether or not they are currently enrolled in class. For complete information regarding available plans, contact Food Services at 425-4200.

### Orientation

A \$60 fee for freshman orientation includes meals, as well as overnight dormitory stay. The fee also covers cost of booklets and

orientation materials.

### Parking

Reserved parking decal .....	\$80 per semester
Reserved parking decal (summer).....	\$54
Reserved parking decal (full year) .....	\$214
24 Hour Reserved parking decal (semester).....	\$90
24 Hour Reserved parking decal (summer) .....	\$60
General parking decal .....	\$88 per year
UTC Place Parking.....	\$550 per year

### Special Examination Fees

Payable for each proficiency or validation examination.

Undergraduate .....	\$64 per credit hour
Graduate.....	\$102 per credit hour

## Mocs Express Fee Payment

### Special Note-Accounts/Receivable Holds

Accounts/Receivable holds are prior obligations to the University (library fines, old UC/UTC loans, parking fines, returned checks, accounts receivable, etc.) that must be paid prior to registering for courses. Students will not be allowed to register with a hold. Also, obligations which are incurred after registration must be paid with current term charges by the cancellation deadline.

Any student who submits registration materials will be obligated for a percentage of the fees even if he/she does not attend classes unless the Registration Office is notified in writing prior to the first official day of classes that he/she wishes to cancel registration.

The University reserves the right to refuse to release to any student their transcript or degree for failure to return UTC property or pay any accounts due at the University.

### Mocs Express Fee Payment

Mocs Express combines all fees, charges, fines, and credits into one statement. The University will mail a Mocs Express statement to all students who register during the Priority Registration period. Students who owe a balance may write a check or authorize a MasterCard or Visa account to confirm attendance by the deadline date. Students who do not owe a balance or have a credit may simply confirm attendance by returning the bottom portion of the Mocs Express statement by the deadline.

The University accepts cash, checks, MasterCard, and Visa for payment of fees. Fees may be paid on line with MasterCard or Visa by accessing the UTC web site at [www.utc.edu](http://www.utc.edu), click on Current Students, then click Pay Fees and select Pay Fees on Line.

### Avoiding Registration Problems

Students should act early to avoid waiting in lengthy lines at various offices. The Bursar's Office, Financial Aid, Housing, and the Registration Office are often busy with telephone calls.

If there is a problem with their Mocs Express Statement, students should notify the Bursar's Office at (423) 425-4781 immediately.

Every student who has registered during Priority Registration is responsible for meeting the deadlines for paying or confirming classes.

### Cancellation Policy

Failure to pay fees or set confirmation of attendance with the Bursar's Office by the published deadline will result in automatic cancellation from all classes. This applies to all students regardless of sources of funds and includes those whose fees are billed, deferred, waived, or paid with personal funds, including financial aid and graduate assistantships. All students whose registrations are cancelled will be required to reregister and pay appropriate fees, including late fees.

There is only one cancellation date each semester. Students who register after the cancellation will be held responsible for all fees and will risk receiving failing grades for all classes not dropped prior to the first day of classes in the semester.

The deadlines for the 2005-2006 academic year are:

For fall 2005, the deadline is 5 p.m. on August 11, 2005;

For spring 2006, the deadline is 5 p.m. on December 16, 2005.

### Prepayment Plan

Under the prepayment plan, students and/or parents choose the academic year expenses they wish to prepay, including room, board, tuition, fees, or books. The expenses can be prepaid over a period of eight months with the first installment due by May 10. The remaining seven monthly installments are payable on the tenth of each succeeding month. Contact the Bursar's Office for details.

### Deferred Payment Plan

A student who is in good financial standing with the University, and has an anticipated source of funds, may defer up to 50 percent of fees. A \$10 extension fee and at least 50 percent of fees are due by the deadline date. The balance will be payable on the 45th calendar day of the term. An additional \$50 will be assessed if the installment is not paid on or before the due date. Financial aid recipients must first apply their aid toward payment of fees, regardless of source of funds. This plan is not offered for the summer terms.

### Dorm Payment Plan

Housing students may choose to participate in the dorm payment plan. Payment equivalent to 50% of rent plus a \$10 extension fee charge is due and payable at fee payment. The remaining balance is paid in on the 45th calendar day of the term. A late payment charge of \$50 will be assessed on each monthly installment not paid on or before the due date. Financial aid recipients must first apply their aid toward payment of fees, regardless of source of funds.

## Refund of Fees and Additional Charges

### General Refund Information

All refund periods are based on the official first day of classes for the University, as published in the catalog and on the UTC Website. No refund is due for courses that are dropped unless the charge for the remaining courses plus the percentage charge for the courses dropped is less than the maximum semester charge for tuition and maintenance fees.

All charges and refunds will be made to the nearest even dollar. All charges are subject to subsequent audit and verification. Errors will be corrected by appropriate additional charges or refunds.

Approximately six weeks after the beginning of the semester, (except summer) a statement of account will be sent to students who owe additional fees or fines.

### Fall and Spring Semesters

	Drop*		Withdrawal**	
	Charge	Refund	Charge	Refund
Prior to first day of class	0	100%	0	100%
1-7 calendar days***	0	100%	10%	90%
8-14 calendar days	20%	80%	20%	80%
15-21 calendar days	40%	60%	40%	60%
22-28 calendar days	60%	40%	60%	40%
29 or more calendar days	100%	0%	100%	0%

\*Drop - Courses dropped which do not result in complete withdrawal.

\*\*Withdrawal - Complete withdrawal from all classes.

\*\*\*Note: Only seven calendar days to drop with no charge.

Students receiving Federal Title IV Financial Aid should read the Refund Process section for financial aid recipients on page 20.

# ACADEMIC REGULATIONS

## Catalog Effective Dates

The catalog in effect at the time of entry or reentry will be used to determine degree requirements if the degree is conferred within 10 years. Students, however, may also elect

- the current catalog at the time of reentry to UTC,
- the catalog in effect when a new major is selected, or
- a catalog reflecting a revised curriculum.

Transfer students are under the catalog in effect at the time of entry to UTC, but may elect to use the catalog in effect at the time of their **first entry** into college or first entry to UTC, provided that the UTC degree is conferred within 10 years.

To request a change in catalog year, students must submit the *Undergraduate Request for Change of Major, Minor or Catalog Year* form to the Records and Registration Office, 109 Race Hall. The form can be accessed through the UTC website at <http://www.utc.edu/Administration/Records-Registration/>.

A student seeking recommendation of The University of Tennessee at Chattanooga for initial teacher licensure or endorsement must satisfy the current UTC approved program requirements on file with the Tennessee Department of Education at the time of application for licensure.

## Registration Limits

Students are classified as full time if they are registered for 12 hours or more. Students registered for fewer than 12 hours, either by their own choice or by University regulations, are classified part time. Students wishing to complete degree programs in four academic years will need to schedule at least 15 hours each semester. Schedules of over 20 hours are not permitted unless the students have obtained advance approval of the Petitions Committee.

Summer registration limits are as follows:

- 7 hours in any 5-week session



- 10 hours in any 7-week session
- 10 hours in any overlapping 5-week and 7-week sessions
- 20 hours in the entire summer term

Written consent of the adviser is required to register for a total of 17 to 20 hours in the summer. Exceptions must receive advance approval by the Petitions Committee.

Students requesting approval of the Petitions Committee to exceed the registration limit for a given semester must submit the petition to the Records and Registration Office (109 Race Hall) no later than the first day of the semester. The petition form can be accessed through the UTC website at [www.utc.edu/Administration/Records-Registration/](http://www.utc.edu/Administration/Records-Registration/).

## Course Numbers and Levels

Courses offered by the University are listed in each college or school section with the course numbers, title, credit, course descriptions, and prerequisites. The numbers identify the level of the courses.

Course Numbers	Level
000-099	Activity, service, or noncredit courses. A maximum of eight hours of S grade in courses in this group may be applied toward a degree.
100-199	Primarily for freshmen but may be taken by sophomores and juniors. Senior registrations at this level are not recommended.
200-299	Primarily for sophomores but open to juniors and seniors.
300-399	For juniors and seniors.
400-499	For seniors and graduate students. When taken for graduate credit, the letter G will precede the credit hours.
500-799	Restricted to fully qualified graduate students. Courses cannot be used for an undergraduate degree.

### Classification

Students are classified as freshmen, sophomores, juniors, and seniors according to the number of hours earned:

Freshmen	0-23 semester hours
Sophomores	24-59 semester hours
Juniors	60-89 semester hours
Seniors	90 semester hours or more

In special circumstances a student may register for a course above the stated level when in accordance with departmental policy and on recommendation of the adviser. Freshmen, however, are not permitted to register for 300- and 400-level courses.

## Institutional Credit and Developmental Studies Program

Institutional credit is assigned to all developmental courses in reading (EDUC 105), mathematics (MATH 105, 106), study skills (USTU 100), study skills lab (PSY 100), and writing (ENGL

105, 106). This credit is in addition to all degree requirements. It does not apply to the hours required for graduation, major requirements, general education requirements, or electives. Neither is it included in the calculation of grade point averages for graduation or honors. While the student is enrolled in developmental courses, however, institutional credit is included in the grade point average to determine the student's eligibility to continue in residence at UTC as outlined in the retention and continuation standards.

Freshman students who are required or who volunteer to enroll in developmental studies courses should successfully complete them within the first 42 attempted hours counting both institutional and regular credit. Transfer students should complete required developmental courses within 30 attempted hours following initial enrollment at UTC.

To exit the developmental studies program, students must have a grade of C or above in all developmental studies courses.

## Placement Exam Requirements

All new undergraduate and transfer students at UTC may be required to take UTC placement exams in mathematics, and writing. Placement exams are scheduled during all freshman and transfer student orientation sessions. Those who do not attend an orientation session are strongly advised to take placement exams during the first week of their first semester and are required to take the exams by term's end.

In general, the only students who are exempt from taking one or more of the placement exams are students with advanced placement, or transfer students meeting one of the following criteria:

### Mathematics

Grade of C or better for developmental algebra (Math 105, 106, or 107), Mathematics 123, college algebra (Math 131 or 135), trigonometry (Math 144 or 145), or calculus (Math 136, 150, 151/152, etc.).

If credit in these courses is several years old, students who need to enroll in mathematics at UTC are encouraged to take the placement test for advisement purposes. Students with credit for mathematics courses other than those specified above are not exempt from taking the mathematics placement test.

### Writing

Students who have an ACT English subscore of 19 or better (SAT Verbal 460) are not required to take the exam and will be placed automatically into English 121.

Students who have an ACT English subscore of 18 or lower (SAT Verbal 459) are required to take the exam to determine placement.

Students who have an ACT English subscore of 28 or better may opt to take the exam to determine whether they may waive the English 121 requirement and enroll in English 122.

### Reading

Students with an Enhanced ACT composite score of 18 or better (SAT total of 840 or above) are exempt from the reading course.

Students with an Enhanced ACT composite score of 17 or lower must enroll in EDUC 105.

Students without either the Enhanced ACT or SAT will be required to take the reading placement exam. Students with a raw score of 49 or lower may be required to take USTU 100 after completion of EDUC 105.

### Foreign Language

All incoming students who have three years or more of high school study in a single foreign language (and no college level study of the language) and who wish to continue study in that language will be required to take a placement test to determine their level of competence in that language. A student should begin study of the language in question at the level established by the placement exam.

## Retention and Continuation Standards

In order to continue in residence at UTC, students must earn a minimum grade point average in accordance with the following scale of attempted hours:

Hours Attempted	GPA Required
1-23	1.0
24-39	1.5
40-55	1.8
56 and above	2.0

Students who achieve the required cumulative grade point average for the hours attempted are in **good standing**. Those who fail to achieve the required average will be subject to the following action:

1. Students will be placed on **academic probation** after the first failure to earn the required grade point average. If the probation is not removed, **academic suspension** for one semester will follow. (The complete summer session is considered a period of suspension.)
2. Probation is removed by raising the cumulative grade point average to the required standards. If a 2.0 average for the semester of probation is achieved, but the cumulative grade point average is not raised to the required standard, probation remains. If a 2.0 average for the semester is *not* achieved, academic suspension for one semester will follow.
3. Freshmen admitted "On Condition" enter on probation for continuation purposes and must earn a minimum 1.0 grade point average in the first semester of attendance. Conditionally admitted students who do not earn at least a 1.0 grade point average in the first semester will also be subject to suspension.
4. Students will be placed on probation when they return after the period of suspension. They must either achieve a 2.0 average in the semester following their return or raise their cumulative average to acceptable standards. If they fail to achieve either standard, they will be dismissed for an indefinite period and may not apply for consideration for readmission for one calendar year.
5. Suspended students who enroll in other colleges or in correspondence courses during their semester of suspension must earn at least a 2.0 average on all hours attempted during this period in order to be eligible for automatic readmission to UTC. Students not meeting the 2.0 requirements must apply for readmission through the Admissions/Readmissions Committee.

6. Any students permitted to enroll despite the fact that his or her cumulative average is below continuation standards will be on probation.

University policy requires that students who have been **suspended** for academic reasons may not enroll at the university for one semester from the time they are suspended. If they wish to reenter, they must complete an undergraduate admissions application available in the Office of Undergraduate Admissions or from [www.utc.edu/admissions](http://www.utc.edu/admissions). Students who have been suspended from another institution of higher education may not enroll at UTC until one semester after the suspension date. Students dismissed or suspended from another institution must also submit an application for undergraduate admissions.

Students who have been **dismissed** for academic reasons may not enroll at the university for one calendar year from the time of dismissal. If they wish to appeal for reentry after one calendar year, they must explain why they can now be successful students using the supplemental readmission form available through the Office of Undergraduate Admissions or [www.utc.edu/admissions](http://www.utc.edu/admissions). Students who have been dismissed from another institution of higher education may not enroll at UTC until one calendar year after the dismissal date.

### Applications for Readmission

For readmission in the fall semester, applications must be completed and received in the Office of Undergraduate Admissions by August 1. The deadline for the spring semester is December 1, and the deadline for all summer sessions is April 15. Applications received after these deadlines will be processed for the next possible term. The Admissions or Petitions Committees will review each student's application and notify the student of the committee's decision.

Although the university believes it to be in the best interests of students who have been suspended or dismissed to remain out of school for a reasonable period, it also recognizes that in unexpected circumstances (e.g., incapacitating injury or serious illness of a family member) students may fall behind in their studies through no fault of their own. Appeals for the term in which reentry is sought are due in the Records and Registration Office no later than the third day of classes in fall and spring semester and the second day of classes for any summer term. The Petitions or Admissions Committees may consider such cases, but it should be understood that the exceptions will be rare. Requests for late medical withdrawals should be submitted to the Records and Registration Office and must be based on severe extenuating circumstances as documented by the attending physician.

### Academic Warning

Academic warning is a cautionary notice to the student that his or her semester grade point average is below 1.0 and that continued academic performance at this low level may lead to probation, suspension or dismissal. Students may be placed on probation or may be suspended or dismissed without having received such a warning notice since these academic actions are closely linked to the overall grade point average. Academic warnings do not appear on the student's academic record.

## Academic Forgiveness

(*undergraduate only*)

The University has adopted an academic forgiveness policy for courses taken at any institution, including UTC. Although the courses will not be removed physically from the student's academic record, they will no longer be calculated in the grade point average and will no longer apply toward the fulfillment of any University requirement.

### The Policy

1. A student must be admitted to UTC and registered for classes at UTC in order to apply for academic forgiveness.
2. Academic forgiveness applies to all courses taken anywhere by the student eight years prior to the date of application for academic forgiveness.
  - a. The eight years will be figured from the semester preceding the date the application is received in the Records and Registration Office (summer is considered one semester).
  - b. All work attempted more than eight calendar years before the date of application will be removed from consideration for credit for fulfillment of general education or major requirements or for grade point average or for any other purpose or requirement.
3. Academic forgiveness may be granted only once and, when granted, is irrevocable.

### The Process

1. Secure the application for academic forgiveness in the Records and Registration Office (109 Race Hall) or from [www.utc.edu/Administration/Records-Registration](http://www.utc.edu/Administration/Records-Registration); read the terms carefully; complete the form and sign it.
2. Return the completed and signed form to the Records and Registration Office. The application for academic forgiveness will be verified, and courses will be checked for eligibility in accordance with the policies stated above. Students will be notified of the course credits that will be forfeited.
3. Sign the final agreement to forfeit eligible courses and return the form to the Records and Registration Office for processing.

## Grading Policies

### Grades

- A** superior performance in the course.
- B** commendable performance in the essentials of the course.
- C** acceptable performance in the essentials of the course.
- D** marginal performance below the acceptable standards of university work.
- S** satisfactory/no credit basis. The hours are not computed in the grade point average.
- NC** failure to complete the requirements in satisfactory/no credit courses. The attempted hours are not computed in the grade point average.
- I** an interim grade given to a student whose work has been of passing quality and who has valid reason for not completing some requirement of the course. Removal of an Incomplete must be submitted by the instructor to the Records and Registration Office no later than three weeks before the last day of classes in the next regular semester, or the Incomplete will become an F. The Incomplete grade will not be computed in the grade point average during the interim. Any student called to active duty in the Armed Forces of the United States may, with the permission of the instructor, be given an indefi-

nite incomplete. This incomplete may be made up at any time, or a retroactive withdrawal may be granted (Students must contact the director of Records and Registration for appropriate procedure.)

- IP** an interim grade for departmental honors courses numbered 495r, indicating work in progress. It must be removed by the end of the next regular semester, or the In Progress becomes an F. IP is also used as an interim grade for Physical Therapy 330, 331, 430, 431 and 490. Removal for all, except PHYT 431, must occur by the end of the next regular semester, or the IP becomes a No Credit (NC). Removal of IPs in PHYT 431 must occur by the end of the following summer semester, or the IP becomes a No credit (NC). The IP will not be computed in the grade point average during the interim.
- F** unqualified failure and the necessity for repeating the course to obtain credit.
- W** official withdrawal from one or more courses after the first two weeks of classes and up to the last six class weeks before final examinations. Comparable deadlines apply to each of the summer terms.
- WF** for students who are receiving Title IV financial aid and who have stopped attending UTC classes without withdrawing officially. The WF is the equivalent of F for all academic purposes. The grade of F, as submitted by the instructor, will be changed to WF by the Records Office. The last day of class attendance will be obtained from the instructor and will be used to determine change in enrollment status. The change in enrollment status will be communicated to the U.S. Department of Education as required. The grade of F will be reflected on transcripts and on the report of academic progress. The WF will be on the academic record for internal use only.

### Quality Points

Quality points are computed for undergraduates for each credit hour as follows:

A.....	4
B.....	3
C.....	2
D.....	1
F.....	0
WF.....	0
S.....	not included
NC.....	not included
W.....	not included

### Grade Point Average

Grade point averages are computed by dividing the total number of quality points earned by the total number of semester hours attempted, including hours of F. Hours are excluded in which grades of S, NC, I, and W have been earned. (Institutional credit is not included in the calculation of grade point averages for graduation or for honors.)

Grade point averages are not rounded, and no numerical value less than the stated grade point average will suffice. (See the section below for policy on replacement of grades.)

### Repeated Courses

1. Provided prerequisites are met, students may replace a total of five grades of C or lower. The first five grades in one or more

- subjects may be replaced; the total number of replaced grades cannot exceed five. Developmental studies courses (institutional credit) will be included in the grade replacement limit, but grades of S, NC, and W will not count in the allotted number of replacement grades.
- The policy was effective with the fall of 1985. Unlimited replacement of grades earned at any college or university will be permitted before the fall of 1985. Beginning with the fall of 1985, a student will be limited to five additional replacement grades in courses taken at UTC or any other college or university.
  - All grades, except the five replaced grades, will be used in the grade point average computation.
  - In any repeated course, excluding "r" courses, a student forfeits the first earned hours, if any. Previous grades and credit do not count; only the last grade counts.
  - Courses in which grades of A or B were earned cannot be repeated except for "r" courses. If an A or B is repeated, the repetition will be changed from credit to audit. An exception is made for registered nurses who are required by the School of Nursing to repeat specified science courses (Biology 208, 209, 210, Chemistry 121 and 122) that were originally completed 10 years or more prior to the students' admission to the nursing major at UTC.
  - For a transfer student, a "course" is interpreted as any course listed separately in an individual term on the transcript, regardless of the number of such courses needed to equate to a UTC course.
  - When a student is repeating more than one course in a term and is nearing the permissible limit of five replacement grades, the following order will determine replacements: 4 hour Fs, 3 hour Fs, 2 hour Fs; 4 hour Ds, 3 hour Ds, 2 hour Ds; 1 hour Fs, 1 hour D; 4 hour Cs, 3 hour Cs, 2 hour Cs, 1 hour Cs. In the case of a tie, a grade in a course within the student's major will be replaced first.
  - Students are responsible for indicating at the time of registration that they are repeating courses.

### Withdrawals

After a semester or summer term is in session, students are expected to attend all classes until or unless they notify the Records and Registration Office in writing their intent to withdraw from the University or from one or more classes.

During the first two weeks of a semester, a student may officially withdraw without prejudice from any class, and no grade will be recorded. After that period and up to the last six weeks of class, a student who officially withdraws will be graded W. Withdrawal deadlines for each semester or term are noted in the schedule of classes. Except in unusual circumstances, no withdrawals are permitted in the last six weeks of classes. Comparable periods apply to summer terms, and specific dates are printed in the academic calendar each year. Requests for late medical withdrawals should be submitted to the Records and Registration Office and must be based on severe extenuating circumstances as documented by the attending physician.

Students sometimes find it necessary because of illness, job responsibilities, or personal problems to discontinue their enrollment. If they must stop attending, they should be certain to withdraw officially. Failure to withdraw officially from any course will

result in a grade of F.

Students who are receiving Title IV financial aid and have stopped attending UTC classes without withdrawing officially will have their change in enrollment status reported to the U.S. Department of Education as required. The grade of F will be changed to WF by the Records and Registration Office for internal use only. The WF will be the equivalent of F for all academic purposes.

### Special Credit

In addition to advanced standing by transfer work, students admitted to the University may obtain advanced placement by any of several examinations.

### Advanced Placement

The University participates in the advanced placement program of the College Entrance Examination Board (CEEB). Applicants who have taken the advanced placement examinations may submit the results to the Undergraduate Admissions Office for consideration.

The University may grant credit and advanced placement in the subject of the examinations to those entering students who earn scores of three, four, or five. (Some departments may exercise their option to require a minimum score of four.) Such students may then begin their college study at the level for which their advanced preparation has qualified them. Examinations with grades of three or two will be referred to the appropriate department, which will determine whether credit or advanced placement can be granted.

Credit earned through advanced placement will be entered on the student's academic record at the University but will not be computed in the grade point average. A maximum of 24 semester hours may be earned in advanced placement credit.

### College Level Examination Program

UTC recognizes and accepts credit derived from several of the subject area examinations of the College Level Examination Program of CEEB. The CLEP subject examinations measure achievement in a number of specific undergraduate courses. A report of test scores should be sent directly to the Undergraduate Admissions Office for consideration. Individual academic departments set standards for the acceptance of CLEP credits. Therefore, the required percentile grade for credit at UTC varies. Some departments accept no credit via CLEP.

Students will be allowed 15 elective hours for successfully passing CLEP general examinations. They may earn three hours of elective credit by successfully passing the CLEP general examination in English composition with a score of 530-610. Students may earn three hours of elective credit per exam by passing CLEP general examinations in mathematics, humanities, natural sciences, social sciences, and history with a score of 421-500. These credits will not satisfy UTC general education requirements, however.

Credit earned will be entered on the student's academic record but will not be computed in the grade point average.

### Cooperative Education Program

The Cooperative Education Program provides students with an

opportunity to: (1) explore career goals while working with skilled and knowledgeable professionals, (2) enhance employment opportunities at graduation by providing career-related work experience, (3) help defray college expenses, and (4) gain college credit (in some departments). Co-op students work with such diverse and innovative companies as Alco Chemical, Decosimo CPA, Evergreen Financial Services, Microsoft, TVA, Dupont, NASA, Shaw Industries, and General Electric an GE Roper Corp, as well as a number of local firms who have developed Co-op Education programs.

Cooperative Education is an optional educational program that combines a student's academic study and paid major-related work experience. The UTC Office of Cooperative Education offers three basic modes of student participation: (1) alternating Co-op, (2) parallel Co-op, and (3) the internship. The two Co-op plans offer students the opportunity to work multi-semesters. Students choosing the *alternating plan* alternate semesters of full-time study with semesters of full-time work. The *parallel plan* allows students to attend classes while working with local employers for up to 25 hours a week. The Co-op Office also works with students to help find full-time or part-time semester paid *internships*.

To be eligible, students must (1) be enrolled at UTC, (2) have completed freshman course requirements in their major, and (3) have a cumulative GPA of 2.50 (2.75 for business majors). After placement, students must maintain a 2.0 GPA, complete all assigned work periods, and register for a non-credit class that certifies them as a UTC co-op student. The program is offered to students in all UTC curricula. For more information, contact the Co-op Office, 326 University Center, (423) 425-4735, or check out our website: <http://www.utc.edu/coopeduc/>.

### Correspondence and Extension Credit

Up to one-fourth of the hours (excluding physical education) required for an undergraduate degree may be earned by correspondence or by correspondence and extension combined. The same limitations apply to hours in the major. All such courses must meet degree requirements at The University of Tennessee at Chattanooga. Correspondence and extension courses may not be taken within the last 24 hours of degree credit work unless advanced approval has been granted by the Petitions Committee.

The University of Tennessee correspondence program provides over 100 UT college credit courses in Arts and Sciences, Business Management, Agriculture, Education, Human Ecology and Criminal Justice. Catalogs of correspondence study offered through The University of Tennessee are available in the Office of Continuing Education.

### Credit by Special Examination (Undergraduate)

Any student who has been admitted to the University is eligible to receive credit by special examination for competence gained through study or experience primarily independent of University class activities. Credit by special examination may be given for courses offered in the catalog with the exception of:

1. courses described as directed research, tutorial, or directed independent study;
2. any course from which the student has been exempted by placement examination or which the student has presented for admission purposes;
3. any course in any education teaching block; or

on recommendation of the adviser. Freshmen, however, are not permitted to register for 300- and 400-level courses.

## Institutional Credit and Developmental Studies Program

Institutional credit is assigned to all developmental courses in reading (EDUC 105), mathematics (MATH 105, 106), study skills (USTU 100), study skills lab (PSY 100), and writing (ENGL 105, 106). This credit is in addition to all degree requirements. It does not apply to the hours required for graduation, major requirements, general education requirements, or electives. Neither is it included in the calculation of grade point averages for graduation or honors. While the student is enrolled in developmental courses, however, institutional credit is included in the grade point average to determine the student's eligibility to continue in residence at UTC as outlined in the retention and continuation standards.

Freshman students who are required or who volunteer to enroll in developmental studies courses should successfully complete them within the first 42 attempted hours counting both institutional and regular credit. Transfer students should complete required developmental courses within 30 attempted hours following initial enrollment at UTC.

To exit the developmental studies program, students must have a grade of C or above in all developmental studies courses.

## Placement Exam Requirements

All new undergraduate and transfer students at UTC may be required to take UTC placement exams in mathematics, and writing. Placement exams are scheduled during all freshman and transfer student orientation sessions. Those who do not attend an orientation session are strongly advised to take placement exams during the first week of their first semester and are required to take the exams by term's end.

In general, the only students who are exempt from taking one or more of the placement exams are students with advanced placement, or transfer students meeting one of the following criteria:

### Mathematics

Grade of C or better for developmental algebra (Math 105, 106, or 107), Mathematics 123, college algebra (Math 131 or 135), trigonometry (Math 144 or 145), or calculus (Math 136, 150, 151/152, etc.).

If credit in these courses is several years old, students who need to enroll in mathematics at UTC are encouraged to take the placement test for advisement purposes. Students with credit for mathematics courses other than those specified above are not exempt from taking the mathematics placement test.

### Writing

Students who have an ACT English subscore of 19 or better (SAT Verbal 460) are not required to take the exam and will be placed automatically into English 121.

Students who have an ACT English subscore of 18 or lower (SAT Verbal 459) are required to take the exam to determine placement.

Students who have an ACT English subscore of 28 or better may opt to take the exam to determine whether they may waive the English 121 requirement and enroll in English 122.

### Reading

Students with an Enhanced ACT composite score of 18 or better (SAT total of 840 or above) are exempt from the reading course.

Students with an Enhanced ACT composite score of 17 or lower must enroll in EDUC 105.

Students without either the Enhanced ACT or SAT will be required to take the reading placement exam. Students with a raw score of 49 or lower may be required to take USTU 100 after completion of EDUC 105.

### Foreign Language

All incoming students who have three years or more of high school study in a single foreign language (and no college level study of the language) and who wish to continue study in that language will be required to take a placement test to determine their level of competence in that language. A student should begin study of the language in question at the level established by the placement exam.

## Retention and Continuation Standards

In order to continue in residence at UTC, students must earn a minimum grade point average in accordance with the following scale of attempted hours:

Hours Attempted	GPA Required
1-23	1.0
24-39	1.5
40-55	1.8
56 and above	2.0

Students who achieve the required cumulative grade point average for the hours attempted are in **good standing**. Those who fail to achieve the required average will be subject to the following action:

1. Students will be placed on **academic probation** after the first failure to earn the required grade point average. If the probation is not removed, **academic suspension** for one semester

will follow. (The complete summer session is considered a period of suspension.)

2. Probation is removed by raising the cumulative grade point average to the required standards. If a 2.0 average for the semester of probation is achieved, but the cumulative grade point average is not raised to the required standard, probation remains. If a 2.0 average for the semester is *not* achieved, academic suspension for one semester will follow.
3. Freshmen admitted "On Condition" enter on probation for continuation purposes and must earn a minimum 1.0 grade point average in the first semester of attendance. Conditionally admitted students who do not earn at least a 1.0 grade point average in the first semester will also be subject to suspension.
4. Students will be placed on probation when they return after the period of suspension. They must either achieve a 2.0 average in the semester following their return or raise their cumulative average to acceptable standards. If they fail to achieve either standard, they will be dismissed for an indefinite period and may not apply for consideration for readmission for one calendar year.
5. Suspended students who enroll in other colleges or in correspondence courses during their semester of suspension must earn at least a 2.0 average on all hours attempted during this period in order to be eligible for automatic readmission to UTC. Students not meeting the 2.0 requirements must apply for readmission through the Admissions/Readmissions Committee.
6. Any students permitted to enroll despite the fact that his or her cumulative average is below continuation standards will be on probation.

University policy requires that students who have been **suspended** for academic reasons may not enroll at the university for one semester from the time they are suspended. If they wish to reenter, they must complete an undergraduate admissions application available in the Office of Undergraduate Admissions or from [www.utc.edu/admissions](http://www.utc.edu/admissions). Students who have been suspended from another institution of higher education may not enroll at UTC until one semester after the suspension date. Students dismissed or suspended from another institution must also submit an application for undergraduate admissions.

Students who have been **dismissed** for academic reasons may not enroll at the university for one calendar year from the time of

dismissal. If they wish to appeal for reentry after one calendar year, they must explain why they can now be successful students using the supplemental readmission form available through the Office of Undergraduate Admissions or [www.utc.edu/admissions](http://www.utc.edu/admissions). Students who have been dismissed from another institution of higher education may not enroll at UTC until one calendar year after the dismissal date.

### Applications for Readmission

For readmission in the fall semester, applications must be completed and received in the Office of

Applied Mathematics (B.S.)  
Concentrations: Actuarial Science, General

Art (B.A.)  
Art ( B.F.A.)  
Concentrations: Graphic Design, Painting and Drawing, 3-D

Art Education (B.S.)

Biology (B.S.)  
Concentrations: General, Ecology, Molecular, Organismal, Preprofessional

Business Administration (B.S.)  
Concentrations: Accounting, Entrepreneurship, Finance, General Management, Human Resource Management, Industrial Management, Marketing,

Chemistry (B.A.)

Chemistry (B.S.)  
Concentrations: Chemistry, Biochemistry

Communication (B.A.)

Computer Science (B.S.)  
Concentrations: Computer Engineering, Software Systems, Scientific Applications

Criminal Justice (B.S.)

Economics (B.A. and B.S.)

Engineering (B.S.E.)  
Concentrations: Chemical, Civil, Electrical, Environmental, Industrial, Mechanical

English and American Language and Literature (B.A.) Concentration: Writing

Environmental Science (B.S.)  
Concentrations: Biology, Chemistry, Engineering Science, Geography, Geology, Mathematics, Sociology-Anthropology

Exceptional Learning K-12 (B.S.)

Exercise Science, Health and Leisure Studies (B.S.) Concentrations: Fitness/Wellness Specialist, Health and Exercise Science Pedagogy K-12, Leisure Studies, Sports Administration,

Foreign Languages (B.A.)  
Concentrations: French, Greek and Latin, Latin, Spanish

Foreign Language Education (B.S.)  
Concentrations: French, Greek, Latin

Geology (B.S.)  
Concentrations: Geology, Environmental Geology

History (B.A.)

Human Ecology (B.S.)  
Concentrations: Interior Design, Food and Nutrition, Child and Family Studies: Services, Child and Family Studies: PreK-4

Humanities (B.A.)  
Concentration: International Studies

Human Services Management (B.S.)  
Concentrations: Allied Health Management, Emergency Systems Management, Nonprofit Management

Industrial Technology Management (B.S.)

Legal Assistant Studies (B.S.)  
Concentration: Social Science

Mathematics (B.A.)

Medical Technology (B.S.)

Middle Grades Education (B.S.)  
Concentrations: English, Mathematics, Natural Sciences, Social Sciences

Music (B.A.)

Music (B.M.)  
Concentrations: Instrumental Performance, Sacred Music, Theory and Composition, Vocal Performance

Music Education (B.M.)  
Concentrations: Instrumental, Vocal Music

Nursing (B.S.N.)

Philosophy and Religion (B.A.)  
Concentrations: Philosophy, Religious Studies, Combined

Physics (B.S.)

Political Science (B.S.)  
Concentrations: American Studies, International and Comparative Studies, Legal Studies, and Public Administration

Psychology (B.A. and B.S.)

Rehabilitation Science (B.S.)

Secondary English (B.S.)

Secondary Mathematics (B.S.)

Secondary Natural Sciences (B.S.)  
Concentrations: Biology, Chemistry, Earth and Space Science, Physics

Secondary Social Sciences (B.S.)  
Concentrations: Economics, Geography, History, Political Science

Sociology and Anthropology (B.A. and B.S.)  
Concentrations: Anthropology, Sociology

Theatre (B.A.)

Theatre Education K-12 (B.S.)

### Minors are currently available in the following areas:

Africana Studies  
Anthropology  
Art History  
Asian Studies  
Athletics Coaching  
Biology  
Business Administration  
Chemistry  
Classics  
Communication: Media Studies, Professional Practice  
Computer Science  
Criminal Justice  
Drama  
Economics  
Emergency Systems Management  
English: Literature, Writing  
Entrepreneurship  
Environmental Science  
French  
Geographic Information Science  
Geography  
Geology  
Greek  
History  
Human Ecology: Food and Nutrition  
Human Services Management  
International Studies  
Latin  
Latin American Studies  
Leisure Studies  
Legal Assistant Studies  
Mathematics  
Music: Composition, History, Performance  
Philosophy  
Physics  
Political Science: American Government, International and Comparative Studies, Legal Studies, Political Psychology and Behavior, Political Science, Public Administration  
Promotion  
Psychology  
Religious Studies  
Sociology  
Spanish  
Theatre  
Women's Studies

# DEGREE REQUIREMENTS

## I. General Education Requirements

The general education requirements described below were approved by the faculty to become effective for new students who entered in Fall 1999 and thereafter. Anyone who changes to the 1999 or later catalog must meet all these requirements. Courses are continually being reviewed to meet the criteria for general education certification.

### Philosophy

The UTC faculty believes that this curriculum can expand our students' fundamental knowledge, abilities, and aesthetic sensibilities, leading to a social awareness essential for individual and societal development.

Graduates of The University of Tennessee at Chattanooga should have the knowledge and ability to:

- Think analytically, logically, creatively, reflectively, and sensitively about the human condition;
- Think analytically, logically, creatively, and reflectively about natural and abstract structures;
- Collect, process, interpret, and use quantitative and qualitative information using up-to-date methods, to define and defend viewpoints, solve problems, and make decisions;
- Communicate effectively, especially in speech and in writing; engage in civil debate; and collaborate on common tasks;
- Incorporate into their world views a comparative, historical, and global perspective on the diversity of the human experience, including the complex factors that shape individuals, societies, civilizations and knowledge.

### Transfer General Education Module

On January 18, 2001, the UTC Faculty Senate approved the following motion:

The UTC General Education Committee recommends that courses specifically meeting common general education category requirements at Tennessee public institutions satisfy the comparable general education category requirements when transferring to UTC. Required competencies including laboratory science and unmet category requirements must still be satisfied.

Later that spring, the Tennessee Legislature approved a bill defining a Transfer and Articulation Module of 60 hours that public universities in Tennessee must accept as transferable from other public colleges and universities in the state.

Fortunately, the common general education requirements for Tennessee Board of Regents colleges and universities and the general education component of the transfer module parallel our own requirements rather closely. In most of the general education categories, transfer of credit can be handled on the basis of course equivalencies. There are two categories, however, in which a different approach is necessary:

- (1) The transfer module includes two courses in mathematics, a category which presumably includes courses in statistics. UTC requires one course in mathematics and one in statistics. Students who transfer two mathematics courses which meet

the general education requirement at their original institution must be given credit for meeting UTC requirements in mathematics and statistics, though they may also need to take statistics to meet the requirements of their major.

- (2) The TBR general education core includes six hours in history and nine in humanities and fine arts. The transfer module includes 15 hours in history, humanities, and fine arts without mandating a distribution of courses. Students who have taken general education courses in history, humanities, and fine arts at other public colleges and universities in Tennessee must accordingly be given credit for them as meeting our requirements in Cultures and Civilizations/ Humanities and Fine Arts even if these courses are not distributed as the UTC requirements specify. Any 15 hours in history, humanities, and fine arts must be accepted as meeting our General Education requirements.

### Categories of Study

The curriculum outlined in the following categories provides a reasoned plan to achieve this purpose. It is comprised of courses both outside and within students' majors; includes the key disciplines developed by human beings to pursue knowledge of themselves and the universe; and maintains a balance between specific essential courses and sets of courses which provide flexibility for individual interests.

The categories of general education and University requirements are described below, along with lists of courses that currently meet the criteria for these categories. Students should check the schedule of classes on the UTC Website for the most complete list of courses being offered for the coming semester. Also, students should check major requirements before choosing courses, since specific courses in each category are often required for a particular major.

#### 1. RC: Rhetoric and Composition I and II (6 hours)

All students must complete Rhetoric and Composition I and II, with grades of C or better, within the first 42 attempted hours of college work.

#### Rhetoric and Composition I (3 hours)

An intensive writing course designed to develop skills essential for effective communication. Students will be sensitized to the structure, beauty, and complexities of Standard American English as they refine their abilities to write logically and clearly. This course must be completed with a grade of C or above. Prerequisite: appropriate placement level.

#### Rhetoric and Composition II (3 hours)

A more advanced writing and oral communication course, emphasizing the composition of extended and persuasive essays and research papers, and the use of computers to gather and prepare information. This course must be completed with a grade of C or above. Prerequisite: English 121 with a grade of C or above or appropriate placement level.

**RC - Approved Rhetoric and Composition Courses:** For Rhetoric and Composition I: English 121, University Honors 101; for Rhetoric and Composition II: English 122, University Honors 102.



**2. Mathematics and Statistics** (6 hours; one three-hour course in mathematics, one three-hour course in statistics)

The purpose of this category is to develop the ability to use abstract and deductive reasoning, to think logically and creatively about mathematical and statistical problems, and to be able to interpret, develop, and use some mathematical or statistical models of real world and abstract phenomena. Courses in this category emphasize the use of mathematics as a powerful language in many disciplines and its significant role in human development. All students must complete the mathematics requirement within the first 60 attempted hours of college work.

**MA - Approved Mathematics Courses:** (NB: All courses in this category have Mathematics Placement Level 20 or equivalent as a prerequisite) Mathematics: 123, 131, 136, 144, 145, 151/152, 214.

**ST - Approved Statistics Courses:** Biology 216; Business Management 211; Economics 201; Engineering 222; Exercise Science 401; Human Services 205; Mathematics 210, 307, 408; Psychology 201/204; Sociology 250

**3. Natural Sciences** (7 or 8 hours; two courses in the natural sciences, with at least one four-hour course that includes a laboratory component)

The purpose of studying the natural sciences is to participate in the systematic ways in which human beings analyze the physical universe, to appreciate the achievements of the human mind in comprehending the universe, and to understand the significant role of the natural sciences in human development. Courses in this category emphasize empirical studies of matter, energy, living systems, natural processes, and related phenomena, and examine science in the context of human culture.

**SL - Approved Natural Sciences Lab Courses:** Astronomy 101/181, 102/182; Biology 119, 121, 122, 210; Chemistry 119, 121/123, 122/124; 125, 168/170; Environmental Science 150, 151; General Science 111/181; Geology 111/181, 112/182; Physics 103/183, 104/184, 119, 230/280, 231/281.

**NS - Approved Natural Sciences Non-Lab Courses:** Astronomy 101; Biology 110; Chemistry 111; Engineering 211; Environmental Science 110; General Science 115; Geology 116, 225; University Honors 120.

**4. Humanities and Fine Arts** (6 hours, with at least 3 hours in the fine arts)

Humanities courses are designed to acquaint students with historical, literary, philosophical, religious, and political experience and traditions, with special attention to the methods and techniques of the humanities disciplines. Fine arts courses are designed to heighten perception, appreciation, and enjoyment of music, theatre, and the visual arts, and may include studio experience in addition to historical studies.

**HU - Approved Courses in the Humanities:** Classics 310,

396; Computer Science 385; English 131, 133, 211, 212, 213, 214, 219, 257, 307, 331, 335; History 203, 204, 310; Human Ecology 325; Humanities 219, 257, 335; Philosophy 201, 221, 425; Religion 103, 110, 213, 221, 222, 236; University Honors 214

**FA - Approved Courses in the Fine Arts:** Art 111, 214, 215, 301; Music 111, 317; Theatre and Speech 111, 113, 115, 280; University Honors 103, 104, 105, 106

**5. Cultures and Civilizations** (9 hours, to be fulfilled by completing either Option A or Option B)

**Option A:** two courses in western humanities and one course in non-western cultures and civilizations.

**Western Humanities I and II** (6 hours)

An historical approach to the great ideas, events, modes of thinking, and creations of the western world. The first course in this sequence will focus on developments from Antiquity through c. 1600; the second, from c. 1600 to the present. Both courses are designed to deepen historical perspective and offer opportunities to experience the power of literature and wrestle with issues of the human spirit. A set of primary texts common to all sections will serve as the focus for each course.

**WH - Approved Western Humanities Courses:** For Western Humanities I: Classics 113; English 113, 203; Philosophy 101, 113; University Honors 101; for Western Humanities II: English 115, 204; Philosophy 102, 115; University Honors 102.

**Non-Western Cultures and Civilizations** (3 hours)

The study of the development or characteristics of nonwestern cultures and civilizations, examining western cultures and civilizations only for the purpose of contrast and comparison, and thoroughly relating aspects of a culture to its context.

**NW - Approved Non-Western Courses:** Anthropology 208, 311, 333; English 316; Geography 103; Human Ecology 333; Humanities 311; Music 311; Political Science 104; Religion 211; University Honors 216, 217, 218, 219.

**Option B:** (One course in each of the three world civilization periods.

**WC: World Civilizations I, II and III** (9 hours)

An historical approach to significant or characteristic events, practices, and creations from world cultures and civilizations. The first course (I) focuses on the ancient world through c. 1000; the second (II) from c. 1000 to c. 1800; the third (III) from c. 1800 to the present. All three courses include important aspects of both Western and nonwestern history and civilization, and integrate the study of the humanities and fine arts. These courses are designed to deepen historical perspective and increase cross-cultural understanding.

**WC - Approved World Civilizations Courses:** For World Civilization I: History 103; for World Civilization II: History

104; for World Civilization III: History 105.

- 5. Behavioral and Social Sciences** (6 hours; two courses to be taken in two different disciplines, unless requirements for the major stipulate otherwise)

The purpose of courses in the social and behavioral sciences is to explore the nature of human beings and how they function as individuals, as citizens, and as members of groups. These courses emphasize the theories, principles, methods, and empirical results of the social and behavioral sciences and assess the impact of scientific research on society.

**SS - Approved Courses in Behavioral and Social Sciences:** Anthropology 152, 211; Communication 320; Criminal Justice 110, 295; Economics 101, 102; Exercise Science 407; Geography 104; Human Ecology 340; Human Services 101; Political Science 101, 102, 103; Psychology 101, 241; Sociology 125, 151, 215, 220; University Honors 315, 316; University Studies 200.

## II. Major Requirements

Requirements, including study in related areas, as specified by department.

## III. Foreign Language Requirement

For B.A. degree: completion of second college year in one foreign language. Students are advised to begin or to continue a foreign language study during their first year at the University or their first year as a candidate for the degree.

A student whose native language is not English and who is pursuing a B.A. degree will fulfill the foreign language requirement by meeting the English requirements for foreign students: English 161, 162, 121 and 122. Students testing out of English 161 and 162 will fulfill this requirement upon successful completion of English 121 and 122.

## IV. American History Requirements

By act of the General Assembly of the State of Tennessee, students who have not had one year of American history in high school must complete six semester hours of American history if they receive an undergraduate degree after July 1, 1978. Three hours of this requirement may be satisfied by Tennessee history.

## V. Minor Requirements

All candidates seeking the Bachelor of Arts degree in the College of Arts and Sciences will complete the requirements of a minor. Completion of a second major will satisfy this requirement. For students seeking the B.A. as a second degree, the previously completed major will satisfy the minor requirement. Previously approved minor courses of study will be honored for students changing majors.

Any student may complete an established minor requiring a minimum of 18 semester hours with at least 8 hours at the 300/400 level. A grade point average of at least 2.0 must be achieved in courses attempted for any minor. Higher standards than these minimum requirements may be approved for various departments. Specific requirements for minors are listed with the

departmental offerings. No more than 6 hours of credit in the major department may be applied to the minor

A student who is receiving one minor in a given department may receive a second minor from the same department provided that the second minor includes at least 12 hours of course work not included in the first minor. Philosophy, Religion, the different foreign languages and Sociology, Anthropology and Geography will be treated as separate "departments."

## VI. Additional Degree Requirements

- Electives to complete a minimum of 120 semester hours of credit.
- Courses taken for graduate credit may not be applied towards an undergraduate degree.
- At least twenty-five (25) percent of the minimum credit semester hours must be earned under the direction of the UTC faculty.
- The last twenty-four (24) semester hours must be completed at UTC. With prior approval by the Department Head of the student's major department, one (1) course completed at other University of Tennessee campuses may be counted as part of the last twenty-four semester hours.
- Nontraditional credit will not apply toward the last 24 hours of residency. Students who have completed 24 hours of traditional course work at UTC and have not yet attempted the last 24 hours may petition to apply a maximum of 12 hours of these types of credit toward the last 24 hours.
- At least thirty-nine (39) credit hours must be taken at the 300-400 level.
- At least twelve (12) credit hours must be earned at the 300-400 level in the UTC program or department offering the degree.
- Students who have attended a junior or community college must complete at least sixty (60) semester hours at a four year college or university with the last 24 semester hours completed at UTC.
- A minimum grade point average of 2.0 must be achieved:
  - On all cumulative work undertaken and
  - On all hours attempted at The University of Tennessee at Chattanooga and
  - On all hours attempted in the major discipline. For further clarification of which courses are included in the major discipline, see the description of the major.
- Completion of testing requirements: In order for the University to assess and improve its academic programs, periodic measurements of student intellectual growth must be obtained. As a requirement for graduation, every student will be required to participate in one or two evaluative procedures, which may include examinations in general education and/or the major field of study. The evaluative information obtained through testing is one of the means used to improve the quality of the educational experience for future generations of students.
- Before entering professional school, students in combined programs must complete at The University of Tennessee at Chattanooga the last 24 of the 98 semester hours of undergraduate study.

### Application for a Degree

The student is responsible for applying for a degree with the Records and Registration Office no later than the beginning of his

or her final year. A student who neglects to file an application must wait until the next degree-conferring period to be awarded a degree.

### Second Bachelor's Degree

A second bachelor's degree may be earned whenever a student simultaneously completes the requirements for more than one degree (ex: B.A. and B.S.) or, after receiving one degree, returns to the university to complete another degree.

A student may receive a second bachelor's degree provided that:

1. All specific requirements for both degrees are met.
2. The curriculum for the second degree includes at least 25 percent of the minimum hours required for the degree not applied to the first degree. These hours must consist of courses taken at UTC. A grade point average of at least 2.0 is required in these courses.
3. The additional hours beyond the first degree shall include a minimum of 12 hours taken at UTC in the major department of the second bachelor's degree. A grade point average of at least 2.00 is required in these courses.

Post-baccalaureate students with bachelor's degrees from regionally accredited colleges or universities who are seeking undergraduate UTC degrees are not subject to UTC general education requirements. However, they are subject to major requirements, including general education courses specifically required for the major. Post-baccalaureate students who are not seeking a UTC degree also do not need to meet UTC general education requirements.

## PRE-PROFESSIONAL PROGRAMS

### Combined Programs

The University of Tennessee at Chattanooga offers both three- and four-year programs leading to the bachelor's degree for students preparing for study in certain professional areas. In the four-year program the degree is granted upon completion of 120 semester hours, which include both the general education requirements and major and elective hours. Under the combined programs a student may receive the bachelor's degree from UTC after completing three years or a minimum of 98 semester hours of undergraduate study plus the first year of professional school. The combined programs available include the bachelor's degree for students preparing for the study of medicine, dentistry, or medical technology.

Before entering professional school, the student in a combined program must have completed all but 24 of the total semester hours required for the bachelor's degree. The requirements in general education and in a major must be completed as a part of this program. While transfer work may be accepted, at least the last 24 semester hours of the three-year undergraduate program must be earned at UTC.

The student is responsible for having a transcript of the first year's work at a professional school sent to the University and for filing application for the degree.

### Preparation for Health Professions

Students wishing to enter dentistry, medicine, or other health fields such as cytotechnology, dental hygiene, medical technology, pharmacy, or veterinary medicine may complete their pre-professional training at UTC before going to professional school.

The various curricula available at The University of Tennessee at Chattanooga have been prepared with the cooperation of The University of Tennessee, Memphis, and include the specific requirements for admission to the respective colleges of the health science units there. The veterinary medicine program is offered at The University of Tennessee, Knoxville.

In general, these same programs will also meet the minimum admission requirements to other professional colleges offering degrees in these health sciences. Students wishing to prepare for professional institutions other than The University of Tennessee, Memphis, should consult the catalogs of those schools to determine the specific preparation required for admission. In all cases, final decision for admission rests with the college involved.

### Dentistry

Although applicants may be admitted to the College of Dentistry of The University of Tennessee, Memphis, with a minimum of 90 semester hours in academic subjects, preference is given to those who have already completed a baccalaureate. Admissions requirements include 6 hours of English composition, 8 hours of general biology, 8 hours of general chemistry, 8 hours of organic chemistry, and 8 hours of general physics. Upper level biology courses (selected from cellular biology, comparative anatomy, embryology, genetics, histology, microbiology, and physiology) are recommended. A minimum grade point average of 2.5 in all required subjects attempted and in cumulative coursework is normally required for admission. For general electives, courses in calculus, foreign language, literature, biochemistry, social sciences, and behavioral sciences are suggested.

A student in a combined program who is working toward a bachelor's degree from The University of Tennessee at Chattanooga must complete at least 98 hours, including all general education requirements, as well as requirements for a specific major offered by UTC before entering the College of Dentistry. After the successful completion of the first year at the College of Dentistry, the student will be awarded the bachelor's degree from UTC.

### Medical Technology (B.S.)

A student working toward the B.S. degree with a major in medical technology from UTC must complete 98 semester hours of the program outlined on page 47, together with 30 hours from an approved school of medical technology. The last 24 of the 98 hours must be completed in resident courses at UTC.

Students should be aware that large-scale changes in health care have resulted in some changes to programs like medical technology. In particular, many of the schools or hospitals offering the 30-hour clinical portion of the program required for the B.S. in medical technology at UTC have either closed or dramatically limited access to their programs. At this time there are still several schools (e.g., Vanderbilt and Tennessee State) offering the 30-hour clinical program. Other schools, such as the University of Tennessee, Memphis, offer a two-year clinical program. To enter one of the two-year clinical programs, a student must complete two years at UTC, be accepted into that program, and then transfer from UTC to that school.

Courses required for admission to the two-year clinical medical technology program at the University of Tennessee, Memphis:

Courses	Semester Hours
English 121, 122	6
Biology 121,122	8
Biology 208, 209	4
Chemistry 121,122	8
Chemistry 351,352*	8
Math 135	3
Electives	25

\*Chemistry 466 (Biochemistry) is also highly recommended. Recommended electives include: Communication 101; Psychology 101 and 241; a General Education humanities or fine arts course; and 2 semesters of a foreign language. Note that all courses should be applicable towards a major in that subject area.

### Medicine

Although most students now earn a bachelor's degree before admission to a college of medicine, some may be accepted with only three years of undergraduate work. Minimum requirements for admission to the College of Medicine of The University of Tennessee, Memphis, include 16 hours of chemistry (8 hours of general and analytical and 8 hours of organic), 8 hours of physics (mechanics, heat, light, sound, electricity, and magnetism), 8 hours of biology including zoology, and 6 hours of English composition.

Strongly recommended additional courses include advanced chemistry (analytical, physical, or biochemistry or chemical instrumentation), advanced biology (cellular biology, embryology, molecular biology, or genetics), calculus, behavioral and social sciences as well as computer science, languages, literature, phi-

losophy, history, and etymology. A total of 90 semester hours is required for admission if a student is not working toward a bachelor's degree from The University of Tennessee at Chattanooga. A degree candidate must complete 98 hours, including all general education requirements as well as requirements for a specific major offered by UTC. The last 24 of the 98 hours must be completed in resident courses at UTC.

### Pre-Veterinary Medicine

Although no combined degree program is available in the veterinary medicine field, students at The University of Tennessee at Chattanooga may complete all of the courses required for admission to the College of Veterinary Medicine at The University of Tennessee, Knoxville. Because of the competition for admission to this field as well as to other health fields, students are advised to complete an undergraduate degree program in a major that will offer alternative career opportunities. The following pre-veterinary medicine courses are required.

Courses	Semester Hours
English 121, 122	6
Humanities and Social Sciences	18
(May include, for example, courses in English, literature, speech, music, art, philosophy, religion, language, history, economics, anthropology, political science, psychology, sociology and geography)	
Math 135, 136 or 150, 160	6-8
Physics 103, 104	8
Chemistry 121,122	8
Chemistry 351,352	8
Chemistry 466	3
Biology 121,122	8
Biology 325	3
Biology 328	4
(Biology 311 may be approved only if Biology 328 is not offered)	
<b>TOTAL</b>	<b>72-74</b>

### Allied Health Fields

Students planning to enter one of the other health fields can satisfy the minimum admission requirements for the respective units of The University of Tennessee, Memphis, by completing one of the following programs. These programs by themselves do not lead to a degree from The University of Tennessee at Chattanooga. Students wishing to do so, however, may count any of these courses completed at The University of Tennessee at Chattanooga as a part of the total hours required for a baccalaureate degree if they decide to continue toward a major offered by UTC.

### Cytotechnology

Three years of preparation (90 semester hours) are required for admission to this program at The University of Tennessee, Memphis. The program of study must include the following courses or their equivalents:

Courses	Semester Hours
---------	----------------

English 121, 122 and 2 additional English courses	12
Biology 121, 122	8
Biology 311	4
Biology 328 and 330	8
Chemistry 121, 122	8
Advanced science (analytical chemistry, organic chemistry, embryology, comparative anatomy, genetics, and physiology)	8
Mathematics (preferably 135)	3
Social science	12
Electives*	27
<b>Total</b>	<b>90</b>

\*Courses in human anatomy and physiology, physics, English, speech, mathematics, organic chemistry, and social sciences strongly recommended. A total of 16 hours must be in upper level courses. A year of American history in either high school or college is required for the degree program at UT, Memphis.

### Pre-Dental Hygiene

Students may be admitted to the Dental Hygiene program of The University of Tennessee, Memphis, upon completion of 64 semester hours including the following courses or their equivalents:

Courses	Semester Hours
Biology 121, 122	8
Biology 191, 208, 209	8
Biology 210 or 311	4
Chemistry 121, 122	8
English 121, 122 and one additional English course	9
Psychology 101 and one additional psychology course	6
Sociology 151 and one additional sociology course	6
One course from Theatre and Speech 107, 108, 109, 309	3
Electives*	12
<b>Total</b>	<b>64</b>

\*Courses in mathematics and social sciences strongly recommended. A year of American history in either high school or college is required for the degree program at UT, Memphis.

### Pre-Pharmacy

Students may be admitted to the School of Pharmacy of The University of Tennessee, Memphis, upon completion of 67 semester hours, excluding physical education or military science, which include the following courses or their equivalents:

Courses	Semester Hours
---------	----------------

Biology 121, 122	8
Biology 311 (Microbiology)	4
Chemistry 121, 122	8
Chemistry 351, 352	8
Physics 103, 104	8
Mathematics 136 or 150	3-4
English 121, 122	6
Communication or Speech	3
Math 210	3
Humanities	6
Social Science	6
Electives*	4
<b>Total</b>	<b>67</b>

\*A year of American history in either high school or college is required for the degree program at UT, Memphis

## HONORS

### General University Honors

An undergraduate student will be graduated *cum laude* when the student's cumulative grade point average, as well as UTC average, at the end of the final semester is 3.5. With an average of 3.75, both cumulative and at UTC, the student will be graduated *magna cum laude*. The student with the highest average will be graduated *summa cum laude* if his or her average is at least 3.9. More than one summa graduate will be recognized in the event of a tie. Honors will be inscribed on the diplomas. Institutional credit will not be counted in the grade point average for graduation or honors. Grade point averages are not rounded. These standards apply to all undergraduate degree candidates, regardless of the catalog under which they entered.

### The University Honors Program

Each year the University Honors (UHON) Program admits 30 to 40 freshmen. This prestigious program offers to members an atmosphere that nurtures their intellects, sense of social responsibility, and drive to lead. The goal is to foster a community of scholars who enjoy each other's company, benefit from each other's work, and provide the University with new ideas and ways to excellence.

To achieve this goal, the Program provides Honors students with a specialized general education curriculum tailored to their talents and needs (see page 114); opportunities for social, University, and community service; personal advisement; priority registration; an exclusive reading room and computer lab; and membership in a highly visible and respected group of students. Approximately half of all Honors students receive a full four-year scholarship (see pages 10-22).

Applicants to the UHON Program should have a record of outstanding achievement and promise. Continuance is reviewed each semester and is contingent upon the student's academic performance. All UHON students are obligated to complete Departmental Honors (see next section). Interested high school seniors should submit a UHON application by February 1. For more information and a current application write to: University Honors Program, 202 Guerry Hall, The University of Tennessee at Chattanooga, Chattanooga, TN 37403; call (423) 425-4128; or visit the program's web site at: [www.utc.edu/univhon/](http://www.utc.edu/univhon/).

### Associate Honors Scholars

Current UTC students who were not initially admitted to the UHON Program and who have completed at least 24 hours of credit with a GPA of 3.5 may apply for membership as Associate Honors Scholar. Although ineligible for any University Honors Scholarships which are awarded to incoming freshmen only, Associates enjoy most of the benefits of the other UHON students, including admission to specialized UHON courses, early registration for classes, access to the UHON reading room and computer lab, and a stipend to spend on concert and theater tickets. Associates are also eligible to participate in annual trips sponsored by the UHON Program.

Interested students can obtain an application at the Honors Program Office, 202 Guerry Hall, on on line at [www.utc.edu/univhon/AssocAppl.pdf/](http://www.utc.edu/univhon/AssocAppl.pdf/).

### Departmental Honors

The Departmental Honors Program allows exceptional students to receive special recognition for their academic achievements. Departmental honors is bestowed upon students who have maintained high academic standards in their course work, completed an acceptable two-semester, four-hour honors project, and passed an oral examination. Graduation with departmental honors is recorded on the academic record and on the diploma.

The departmental honors project allows each honors candidate to deepen knowledge and increase skills in a particular discipline. Typical honors projects include original research or literary analysis, scientific experimentation, or artistic expression.

Admission to departmental honors requires an overall grade point average of 3.2 and a grade point average of 3.5 in the major. Any student with an overall grade point average of 3.5 and a grade point average of 3.75 in the major through the next-to-last semester before graduation may become a candidate for highest honors.

Application for departmental honors is usually made during the third semester before graduation. Forms and a full accounting of procedures and policies can be found in the current Departmental Honors Handbook, obtainable from the Director of University Honors, 202 Guerry Hall, or on line at [www.utc.edu/univhon/DHON/dhon.html/](http://www.utc.edu/univhon/DHON/dhon.html/).

### Academic Recognition and Honor Societies

The University recognizes scholarly achievement in a number of ways. The dean's list includes each semester the names of all students who achieve an average for the semester of at least 3.2 with a registration of 6 graded hours or more.

Institutional credit will not be counted in the grade point average for graduation or honors.

Academic achievement, either in general or in specific fields, is recognized by a number of organizations:

*Alpha*, the scholastic honor society of The University of Tennessee at Chattanooga, elects to membership seniors who have maintained a very high scholastic average (3.75 or higher). Election is by vote of the faculty members of *Alpha*.

*Alpha Lambda Delta*, national honor society for women and men, elects to membership those freshmen who have a 3.5 average on at least 12 graded hours in the first semester or a cumulative average of 3.5 at the end of the freshman year.

*Golden Key*, is a national honor society for all juniors and seniors, either full or part time, who have been at UTC for one year and who have maintained at least a 3.3 grade point average.

*Mortar Board*, a national honor society for senior women and men, elects to membership those who at the end of their junior year have a minimum grade point average of 3.0 and who have demonstrated outstanding ability in leadership, scholarship, and service to the University.

*Phi Eta Sigma*, national honor society for men and women, elects to membership those freshmen who have a 3.5 average on at least 12 graded hours in the first semester or a cumulative average of 3.5 at the end of the freshman year.

#### Honor societies in specific areas include:

- Alpha Kappa Delta (sociology)
- Alpha Mu Alpha (marketing)
- Beta Alpha Psi (accounting)
- Beta Beta Beta (biology)
- Beta Gamma Sigma (business)
- Delta Omicron (music)
- Delta Tau Omega (geology)
- Financial Management Association (finance)
- Gamma Sigma Epsilon (chemistry)
- Kappa Delta Pi (education)
- Kappa Omicron Phi (home economics)
- Kappa Tau Alpha (Communication)
- Lambda Alpha Epsilon (criminal justice)
- Lambda Iota Tau (literature)
- Omicron Delta Epsilon (economics)
- Phi Alpha Theta (history)
- Pi Delta Phi (French)
- Pi Gamma Mu (social sciences)
- Pi Mu Epsilon (mathematics)
- Pi Sigma Alpha (political science)
- Psi Chi (psychology)
- Scabbard and Blade (military science)
- Sigma Delta Pi (Spanish)
- Sigma Iota Epsilon (business management)
- Sigma Pi Sigma (physics)
- Sigma Theta Tau (nursing)
- Sigma Xi (sciences)
- Tau Beta Pi (engineering)
- Upsilon Pi Epsilon (computer science)

## GRADUATE SCHOOL

The Graduate School is the administrative unit which coordinates and supervises activities relating to the graduate degrees offered by The University of Tennessee at Chattanooga.

## Graduate Degree Programs

- M.A. English: Literary Study or Professional Writing
- M. Acc. Accountancy
- M.B.A. Business Administration
- M.Ed. Counseling: Community, School; Elementary Education: Art, Early Childhood Education, Elementary Education, Inclusion, Instructional Technology, Reading Specialist, Research, Licensure; School Leadership; Secondary Education: Art, English, Health Education, Inclusion, Instructional Technology, Licensure, Mathematics, Physical Education, Science and Environmental Studies, Social Science, Research/Thesis; Special Education: Early Childhood, Emotional/Behavioral Disabilities, Gifted, Individual, Mild Disabilities, and Moderate/Severe Disabilities.
- M.M. Music: Education, Performance
- M.P.A. Public Administration, Non-Profit Management
- M.S. Health and Human Performance: Athletic Training Post Certification, Athletic Training Entry Level, Health and Productivity Management, Clinical Exercise Physiology; Computer Science; Engineering: Chemical Sciences, Civil, Computational, Electrical, Industrial, or Mechanical; Engineering Management; Environmental Science; and Psychology: Industrial/Organization, Research
- M.S.C.J. Criminal Justice
- M.S.N. Nursing: Administration, Anesthesia, Education, Family Nurse Practitioner
- Ed.S. Advanced Educational Practice: Educational Technology; School Psychology
- D.P.T. Physical Therapy
- Ed.D. Learning and Leadership
- Ph.D. Computational Engineering

## Certificate Programs

- Computer Science  
Computer Networking  
Internet Application Programming
- English  
Writing/Rhetoric
- Education  
Elementary Education: Urban Specialist  
School Leadership
- Engineering Management  
Fundamentals of Engineering Management  
Project Management  
Quality Management
- Nursing  
Family Nurse Practitioner  
Health Care Informatics  
Nurse Anesthesia
- Public Administration  
Nonprofit Management

Anyone holding the baccalaureate or higher degree and who wishes to take courses as a degree-seeking or non-degree seeking student, must make formal application for admission through the Graduate School Office. Those who wish to pursue a second baccalaureate degree must apply through the Adult Services Office located in the University Center.

For more information concerning a specific graduate degree program, please refer to the Graduate School Office. Also visit

the web site at: [www.utc.edu/gradstudies](http://www.utc.edu/gradstudies).

Prospective students may request application materials through the web site or by contacting the Graduate School Office.

### UTC Seniors

A senior who is within 30 semester hours of completing requirements for the bachelor's degree at The University of Tennessee at Chattanooga may apply for admission to graduate courses if the applicant has an overall grade point average of 3.0 (B) or higher and is recommended by the head of his or her major department. Subject to the approval of the director of the Graduate School, a student may earn up to nine semester hours of graduate credit prior to completing the bachelor's degree. Such approval must be obtained each semester by completing the special application form which is available in the Graduate School Office. The approved application must be submitted to the Registration Office prior to the time of registration. Courses taken for graduate credit may not be applied toward an undergraduate degree.

### Teacher Licensure

Students seeking initial licensure are encouraged to apply for the master's program in Initial Licensure. Those seeking endorsement or renewal of licensure may be classified as non-degree students.

## Post-baccalaureate Admission

Post-baccalaureate is an undergraduate admission classification which indicates that the applicant has a baccalaureate degree. A student in this category may take only undergraduate courses.

Post-baccalaureate students with bachelor's degrees from regionally accredited colleges or universities who are seeking undergraduate UTC degrees are not subject to UTC general education requirements. They are subject to major requirements, including general education courses specifically required for the major. Post-baccalaureate students who are not seeking a UTC degree also do not need to meet UTC general education requirements.

Admission as a post-baccalaureate student does not guarantee admission to a degree program. In addition, courses completed under post-baccalaureate admission do not count toward a graduate degree. Students wishing to take courses in this category must apply for admission in the Graduate School Office.

### Second Bachelor's Degree

Students desiring a second bachelor's degree must apply for readmission through the Adult Services Center. A student may receive a second bachelor's degree provided that all specific requirements for both degrees are met. See page 33-36 for description of all requirements.

# Student Services

## STUDENT SERVICES

### **UTC Bookstore—University Center**

The University Bookstore, is located on the first floor of the University Center, is operated by Barnes & Noble College Bookstores. The bookstore offers new and used textbooks, course packages, reference materials, and required supplies for classes. The UTC Bookstore also carries imprinted clothing, greeting cards, imprinted novelties and snack. The general reference and reading area carries over 3,000 titles students and faculty can enjoy while relaxing in the cyber cafe with internet access.

Services provided include daily book buyback year round with price higher at the end of each semester during final exams week, and fluctuate depending upon inventory needs of the bookstore for next semester. Books are bought at wholesale prices all other times during the semester. The bookstore is the official retailer for University graduation regalia (cap, gown, invitations and class rings). Academically priced computer software can be purchased by special order. Student pricing on Dell computers and textbook reservations can be accessed through the bookstore at [www.utc.bkstore.com](http://www.utc.bkstore.com). The bookstore accepts MasterCard, Visa, American Express, Discover Card, and the UTC Mocs Card. For more information, please contact the bookstore at (423) 425-4107, or email [bookstore@utc.edu](mailto:bookstore@utc.edu).

### **Check Cashing Service**

The Bursar's Office provides a check cashing service for up to \$50 for students, staff, and faculty. (Only one check per person, per day may be cashed.) A validated UTC ID, or a current fee paid receipt and a valid driver's license, must be presented along with checks.

### **Copy and Mail Services**

Xerox Business Services manages The UTC Document Source Center, Copying/Printing Services, and Mail Services throughout the University. Mail and copy services are located in the Administrative Building, 400 Palmetto St., Room 208, with a satellite center located on the first floor of the Lupton Library. The UTC Document Source Center and Mail Services are open Monday through Friday, 8 a.m.-5 p.m. Satellite copiers are located throughout the University.

Mail Services consist of faculty, staff, and student mail pickup and delivery Monday through Friday as well as pickup and delivery of print jobs. The following services are available: fax service,

overnight mail service, copying, color copies, booklet making, copy paper delivery, and special projects. Assistance for services can be obtained by contacting:

Lupton Library DocuCentre, 425-1708

Lupton Library DocuCentre by fax, (423) 425-2226

Document Source Center Help Desk, 425-4092

Mail Services, 425-4137

Document Source by fax, (423) 425-5349

### **Counseling and Career Planning**

The Counseling and Career Planning Center at The University of Tennessee at Chattanooga offers a variety of services to students. These services include personal, vocational, academic counseling, and crisis intervention, for individuals and groups. Consultation services, workshops and other programs are developed and available for the university community.

The staff of the center includes professionally trained counselors and a psychologist, who have achieved appropriate certification and/or licensure at the state and national levels. Graduate students work under the supervision of the center's professional staff.

Programs and services include career planning; personal counseling; outreach programs/workshops; consultation; and testing. Information on a wide variety of careers, opportunities, graduate schools, and career development is available from books, pamphlets, audio and video resources, and computers. The center also serves as a practicum site for graduate students in counseling. Counseling, consultation, and use of resource materials are provided without charge. There is, however, a minimal charge for testing materials.

The services of the Counseling and Career Planning Center are confidential. New clients come to the center on a walk-in basis. This initial session generally takes about 15 minutes. Location and hours: Counseling and Career Planning Center, University Center, (423) 425-4438, Monday through Friday, 8 A.M.- 5:00 P.M.

### **Student Dining Plans**

University policy requires individuals who live in campus housing to purchase a \$500 per semester Dining Membership. Participation in student dining plans is optional for commuting students. The Dining Membership is a declining balance plan. Individuals may also choose to upgrade their Dining Membership to a Meal Membership.



Unused balances that remain in declining balance meal plan accounts at the end of each academic term are not refundable. However, unused balances will be automatically rolled over from fall to spring semester for continuing students only. Unused balances at the end of spring semester cannot be rolled over to summer or the next fall semester.

In case of withdrawal from the University and cancellation of housing, charges will be assessed according to the number of weeks into the semester the withdrawal and cancellation of housing occurs. For more information, visit [www.utcdining.com](http://www.utcdining.com).

### UTC Dining Services

UTC is pleased to offer a palate-pleasing menu covering a wide range of tastes. Offerings include home cooked food, gourmet and classic sandwiches, pizza, a large variety of salad options, grilled foods, pasta, wraps, soups, pastries, gourmet coffee and more. Subway, Quizno's and Chick-Fil-A are also available.

Several locations are available to meet hectic and demanding schedules. The University Center food court located in the new University Center is open for breakfast, lunch and dinner seven days a week when school is in session. Campus Crossroads, located next to the UTC Lupton Library, is open for lunch and late evening hours during the week. Java City, located in Fletcher Hall, offers gourmet coffee, smoothies and pastries. Convenience stores are located at UTC Place and in the University Center.

Aramark Campus Services manages the food services on UTC's campus. Aramark operates facilities in various locations with a variety of hours on the campus. Multiple meal membership plans are available. Students living in campus housing are required to participate in a minimum meal membership plan. For more information please contact Aramark at (423) 425-4200.

### Mocs Cards

The University provides each student with an official University ID card, the Mocs Card. This card is used to gain admission to athletic events, to check out books from the library, to obtain special rates and privileges at many University functions, and to indicate the individual's right to use University facilities.

Mocs Cards can also be used as a debit card at the following locations:

- All Food Service Facilities
- Bookstore
- Laundry Facilities
- Parking Garage and Parking Services
- Select copy and vending machine locations

A debit card account balance can be activated by depositing cash into the Value Port machine located next to Food Services in the University Center. Also, deposits can be made in the form of cash, check, Visa or Mastercard in the Bursar's Office, 216 Fletcher Hall.

A student's initial Mocs Card is intended to last throughout the entire stay at UTC. Lost or stolen cards should be reported immediately to the Mocs Card Office to be placed on Hold. The Mocs Card Office is located in the University Center, ground floor, Room 141. The telephone number is (423) 425-2218 or (423) 425-4109; fax (423) 425-4795. UTC is not liable for any loss of funds due to misuse or theft of a Mocs Card. Replacement cards (lost, broken, or damaged) are made at the Mocs Card

Office for a cost of \$15 to be paid at the Bursar's Office. Once a replacement card is made, previous cards cannot be reactivated under any circumstances. No fee is charged for the initial card or for the initial use of the debit card system.

### Office for Students with Disabilities

The Office for Students with Disabilities (OSD) is committed to providing equal access to all facilities, programs and services of UTC. OSD reviews each student's documentation under the guidelines of the Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973. ADA mandates that accommodations and adjustments be made in programs and activities in order to provide equal access to qualified persons with disabilities. OSD examines the documentation of each student's disability claim to avoid discrimination and protect the civil rights of the student. Individual determination of appropriate and reasonable accommodations is made specific to the functional limitations of the disability. For more information, please visit the OSD Office at 110 Frist Hall or call (423) 425-4006.

### Health Services/Insurance

Student health services are provided by certified family nurse practitioners under the medical direction of a local physician. Clinic hours are 8:00 a.m. - 5:00 p.m., Monday through Friday. Emergency first aid is available to the entire University community from 8:30 a.m. - 5:00 p.m., Monday through Friday. The scope of services includes office visits for general illnesses, allergy injections, flu immunizations, hepatitis B immunizations, TB skin testing, physical exams, women's health, lab services, educational programs, counseling, and referrals. All currently enrolled University students are eligible for health services. Students are responsible for all fees for referral services such as emergencies, hospitalization, surgery, X-rays, lab work, and medicines.

The university recommends that students obtain separate hospitalization and medical insurance. Information about a health insurance policy available through the university and covering a schedule of expenses for surgery and hospitalization is available in Student Health. All international students are required to enroll in the insurance program. For other information concerning Student Health Services or to schedule an appointment, please contact Student Health at (423) 425-4453.

### Housing

Applications for housing are on line at [www.utc.edu/housing](http://www.utc.edu/housing). Contracts are offered for the following: one calendar year or one academic year (August to May). The length of the contract depends on the accommodations chosen. Cancellation of a contract once the room is occupied requires approval from the Housing Office and is subject to additional charges and penalties as stated in the contract.

The University offers a program of differentiated housing which allows students the option of living in facilities with different types of programming, supervision, and visitation. Further information concerning the details of these plans is available from the Housing Office and on the Housing Office website.

**Placement Services**

Located in the University Center, the Placement and Student Employment Center assists degree candidates, alumni, and students in securing full- and part-time employment. The service is available year round.

**Student Handbooks**

Distributed at the beginning of each academic year, the Student Handbook provides detailed information on student services and serves as a student/faculty directory. It also contains information on the Student Government Association and specific rules for the purpose of regulating campus life. These rules are stated in the Honor Code, Student Conduct Code, and other codes regulating groups.

**Student Tickets**

A validated student ID card with a picture provides admission to the regular season home football, basketball, and wrestling events. These unreserved seats are in the student section and available on a first come basis. The number of seats in the student section is limited.

A student may purchase a guest ticket for the student section at a discount price to each home football and basketball game. These tickets may be purchased at the Student Ticket Office.

Spouse tickets: A student may purchase a spouse or guest ID with a picture for \$15 per semester. These may be purchased at the Student Ticket Office.

**Statement of a Drug-free Environment**

The University of Tennessee is committed to ensuring that it is safe and free from the illegal use, manufacture, possession, distribution, or dispensing of controlled substances (as defined in the Controlled Substances Act, 21 U.S.C. Section 812). To accomplish this, the University has established a student drug abuse prevention program through the Office of Student Development. Further, students are subject to a Code of Conduct pertaining to use or possession of controlled substances, and recipients of certain federal financial assistance such as Pell Grants will be required to certify that they will be drug-free during the dependency of the Grant.

# GENERAL REGULATIONS

**Family Educational Rights and Privacy Act**

A student's record is regarded as confidential, and release of the record or of information contained therein is governed by the federal law on "Family Educational Rights and Privacy." Only directory information, such as a student's name, address, telephone listing, major fields of study, participation in officially recognized activities and sports, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student, may be released by the institution without consent of the student unless the student has asked UTC to withhold such information. The law also provides for the release of information to University personnel with a legitimate educational interest, other institutions engaged in research (provided information is not revealed to any other parties), designated agents of the University and certain federal and state government officials.

A student may inspect and review records and is entitled to challenge the content of records. However, the student may be denied access to a parent's financial statement and to confidential letters and statements of recommendation which were placed in the University's records prior to January 1, 1975.

**Honor Code**

The Honor Code is based upon the assumption that the student recognizes the fundamental importance of honesty in all dealings within the University community and that education is a cooperative enterprise between student and teacher and between student and student. Any act of dishonesty violates and weakens this relationship and lessens the value of the education which the student is pursuing. The Honor Code and the Honor Court and its procedures are detailed in the Student Handbook.

**Records**

The Office of Records and Registration maintains an academic record on any student who has ever attended UTC. This record includes the student's name, Social Security number, birthdate, and credits from other colleges. It includes all courses which a student has taken at UTC with credit hours, grades, and cumulative grade point average. Academic suspension or dismissal is recorded as well as academic probation.

**Transcripts**

Transcripts of a student's record are released only with the student's written authorization. There is a \$2 fee for each transcript request that is mailed or picked up, and a \$5 fee to send transcripts via fax. Transcripts issued to other UT campuses are free. Requests should be made to the Office of Records and Registration in advance of the date the transcripts are needed. The processing of transcripts may take as long as two weeks at the beginning or end of a term. Transcript request forms are available in the Transcript Office, Race Hall, and on line at [www.utc.edu/Records-Registration/TranscriptRequest.pdf](http://www.utc.edu/Records-Registration/TranscriptRequest.pdf).

Transcripts are not released for students who have an indebtedness of any type to the University.

## Accommodations and Assistance

The University of Tennessee at Chattanooga is strongly committed to complying with the Americans with Disabilities Act and assuring that no qualified individual is by reason of disability, excluded from participation in or denied the benefits of any services, programs, or activities provided by the University. The Office for Students with Disabilities (OSD) provides reasonable accommodations to persons with disabilities whenever necessary to afford otherwise qualified students access to services, programs, or activities. The Director of Affirmative Action, Dr. Barbara Wofford, holds the responsibility of ensuring University compliance with ADA. For more information, please come by the OSD office located at 110 Frist Hall, or call (423) 425-4006.

## Student Email Guidelines

The University of Tennessee at Chattanooga adopts email as an official means of communication with students.

Each student, upon enrolling, is issued a UTC email account with an address on the utc.edu domain. This is the account used for University business and official University communications to students. Students are expected to regularly check their UTC accounts for University communications. Students may use the UTC account for personal communication at their discretion.

Students may also, at their discretion, routinely forward email from their UTC account to a personal account. They should keep in mind that UTC email may be more secure than other email systems.

UTC accounts remain the property of the State of Tennessee. The University reserves the right to disable accounts after graduation or other severance from the University.

The expanding reliance on electronic communication among students, faculty, staff, and administration at The University of Tennessee at Chattanooga (UTC) is motivated by the convenience, speed, cost-effectiveness, and environmental advantages of using email rather than printed communication. Because of this increasing reliance and acceptance of electronic communication, email is considered an official means for communication.

Implementation of these guidelines ensures that students have access to this critical form of communication. These guidelines seek to ensure that all students can access email as the need arises.

These student email guidelines regard the following aspects of email as an official means of communication: University use of email; assignment of student email addresses; and student use of and responsibilities associated with UTC email.

### 1. University use of email

Email is an official means for communication within UTC. Some communications may only be made by email. Therefore, the University has the right to send communications to all students via email and the right to expect that those communications will be received and read in a timely fashion.

### 2. Assignment of student email addresses

UTC will assign all students an official University email address. It is to this official address that the University will send email communications; this official address will be the address listed in the University's records database for that student.

### 3. Redirecting of email

A student may have email electronically redirected to another email address. If a student wishes to have email redirected from his or her official UTC address to another email address (e.g., @aol.com, @hotmail.com, etc.), they may do so, but at his or her own risk. The University will not be responsible for the handling of email by outside providers. Having email redirected does not absolve a student from the responsibilities associated with communication sent to his or her official email address. For assistance in this process contact the Help Desk at 425-4000.

### 4. Expectations regarding student use of email

Students are expected to check their official email address on a frequent and consistent basis in order to stay current with University communications. The University provides a limited amount of storage space so students are expected to manage (read, delete, file, etc.) their accounts accordingly. The campus recommends checking email several times a week at a minimum, in recognition that certain communications may be time-critical.

### 5. Educational uses of email

Faculty expect that students' official email addresses are being accessed, and faculty may use email for their courses accordingly. Faculty members determine how email will be used in their classes. Faculty may have email requirements and expectations that they specify in the course syllabus.

### 6. Appropriate use of student email

Email is not appropriate for transmitting sensitive or confidential information. All use of email will be consistent with the Administrative Guidelines Statement on Use of Electronic Email and UTC's Acceptable Use Practices. Confidentiality regarding student records is protected under the Family Educational Rights and Privacy Act of 1974 (FERPA). All University use of email will be consistent with FERPA guidelines.

The Office of the Assistant Vice Chancellor for Information Technology will review these guidelines as needed. Changes will be authorized by the approval of the Information Technology Coordinating Council and the Chancellor's Executive Council. Students with questions or comments about these guidelines should contact the UTC Help Desk at 425-4000.

# College of Arts and Sciences

Professor Herbert Burhenn, *Dean*

## Anthropology

See Sociology, Anthropology, and Geography, page 107.

## Art

*UC Foundation Associate Professor Matt Greenwell, Head*

The Department of Art, an accredited member of the National Association of Schools of Art and Design, enrolls students in one of three four-year degree options:

- Bachelor of Fine Arts with concentrations in Graphic Design, Painting and Drawing, or 3-D
- Bachelor of Science in Art Education
- Bachelor of Arts

Selection of an area of study is based on an individual's professional objectives; however, each program in the department follows a carefully structured and sequential curriculum. It is the intent of the department to have available facilities and resources appropriate for the level of professional preparation of its degree options.

The department also offers a minor in Art History, opportunities for study abroad through CCSA, and an M.B.A. prep Business Minor. The Art Department reserves the right to keep one example of the work of each student in each course.

### Admission to the Art Program

Students entering UTC who intend to pursue the B.S. in Art Education or the B.F.A. in a studio concentration must enroll as Pre-Majors in Art. To be considered for admission into the B.S. or B.F.A. program, students must have completed Art 101, 102, 105 and 106 with a minimum grade point average of 2.5 for those courses, and must enroll in Art 200r, Sophomore Review. It should not be assumed that a high grade point average in the major itself assures a satisfactory grade for Art 200r.

### Sophomore Review

Art 200r, Sophomore Review, is required of all B.S. and B.F.A. candidates and takes place in the spring semester of the sophomore year of a student's matriculation within the program. The review is a formal assessment of the student's studio performance and oral competency as it pertains to the student's designated degree and concentration. It is intended to provide students with an assessment of their potential for success in the intended area of study early enough to allow them to make a program change should that be advisable. In addition to the portfolio review, the student's overall academic record will be evaluated for quality and seriousness of purpose. A history of excessive absences, sig-

nificant lack of participation, withdrawals, or incompletes may result in denial of progression. Students will receive a Satisfactory or No Credit grade for Art 200r at the determination of the Sophomore Review Committee.

Students who do not satisfactorily complete the review will be unable to enroll in upper division course work (300 and 400 level) in the department except by special permission of the Department Head. Students will have only one opportunity to reapply for admission into the B.S. or the B.F.A. in a chosen concentration by retaking Art 200r.

Prerequisites for enrollment in Art 200r, Sophomore Review, are Art 101, 102, 105 and 106 and:

- for admission into the B.S. Art Education: 3 hours from Art 205, 207 or 233
- for admission into the B.F.A. Graphic Design: Art 260
- for admission into the B.F.A. Painting and Drawing: Art 207
- for admission into the B.F.A. 3D: Art 233

Corequisites for enrollment in Art 200r, sophomore Review, are

- for admission into the B.S. Art Education: 3 hours from art 203 or 204
- for admission into the B.F.A. Graphic Design: Art 271
- for admission into the B.F.A. Painting and Drawing: Art 208
- for admission into the B.F.A. 3D: Art 244

### Transfer Students

Transfer students who intend to pursue the B.S. in Art Education or the B.F.A. in a studio concentration must enroll as Pre-Majors in Art. In order to be admitted into the B.S. or the B.F.A., students transferring from another institution must take or have equivalent credit for Art 101, 102, 105 and 107, and must complete Art 200r at UTC. Except by special permission of the Department Head, transfer credits will not be accepted for the following courses. Students must enroll in the following courses at UTC as pre- and co-requisites for the Sophomore Review:

- for admission into the B.S. Art Education: 3 hours from Art 205, 207 or 233 and 3 hours from Art 203 or 244
- for admission into the B.F.A. Graphic Design: Art 260 and 271
- for admission into the B.F.A. Painting and Drawing: Art 207 and 208
- for admission into the B.F.A. 3D: Art 233 and 244

## Art (B.F.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Art 214\*, 215\* (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

### Major and Related Courses

English 300; Theatre and Speech 109

83 hours art including:

Art 101, 102, 104, 105, 106, 200r, 205, 491;

9 hours (from courses other than those required for one of the concentrations below) from: 203, 206, 207, 208, 233, 244, 260, 281, 300, 305, 306;

Art 214† and 215†

6 hours art history from 314, 315, 414 or special topics course in Art History

Remaining elective hours in art to total 83

Student must complete one area of concentration as follows:

**3091 - Graphic Design:** 260, 271, 281, 300, 361, 362, 371, 380, 465, 466, 471.

**3090 - Painting & Drawing:** 206, 207, 208, 303r, 307, 308, 405, 406, 407, 408, 409.

**3092 - 3-D:** 233, 244, 336, 337, 338, 344, 345, 437, 438, 439, 440.

Portfolio review is required in Sophomore year.

2.5 GPA minimum in art courses.

Participation in senior art exhibition.

Minimum of 39 hours of 300 and 400 level courses

Total Hours 120

See page 35 for additional requirements.

\* Also satisfies requirement in the major.

† Also satisfies general education requirement.

## 2087 - Art Education (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Art 214\*, 215\* (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

### Major and Related Courses

Psychology 221; Theatre and Speech 109; and one course from Art 300, Computer Science 110, or Education 417

53 hours art including:

Art 101, 102, 103, 105, 106, 200r, 203, 205, 207, 214†, 215†, 323, 324, 233, 490; 6 hours from Art 314, 315, 414 or a special topics course in Art History;

5 hours in studio elective from the 300-400 level.

24 hours in professional education including Education 201, 321, 400, 433, 444r.

For graduation: 2.0 average in art and 2.0 average in College of Education and Applied Professional Studies courses

For licensure: 2.5 average cumulative, 2.5 average at UTC, and 2.5 average in education courses with no grade lower than C, 2.5 in content area with no grade lower than C.

Portfolio Review is required in Sophomore year.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\* Also satisfies requirement in the major.

† Also satisfies general education requirement.

## 1087 - Art (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Art 214\*, 215\* (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language

**Completion of a minor** with a minimum 2.0 grade point average.

### Major and Related Courses

Theatre and Speech 109

English 300

42 hours art including:

Art 101, 102, 105, 106, 203, 207, 233, 244;

Art 214† and 215†;

3 hours from 205, 208, 260, 281, 303r, 305, 306;

3 additional hours from 314, 315, 414, or a special topics course in Art History;

6 additional hours in studio electives from 300/400 level

Participation in senior art exhibition.

2.0 average in all art courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\* Also satisfies requirement in the major.

† Also satisfies general education requirement.

## 4512 - HISTORY OF ART MINOR

18 hours including Art 214, 215; 6 hours from 314, 315, 414; 6 hours (3 of which must be at the 300-400 level) from American Studies 200; Classics 396; English 203, 204; Philosophy 336; and History (any 300-400 level course).

Minimum 2.0 average in the minor.

### ART COURSES

#### 101 Visual Studies I: Form in Two Dimensions (3)

Color concepts and the visual elements, principles, and factors of organization as they apply to two dimensional design. Fall semester. *Studio hours 6. Corequisite: 105 for the art major or approval of department head.*

#### 102 Visual Studies II: Form in Three Dimensions (3)

Studio experience with visual and tactile components of three dimensional design. Basic problems involving relief, mass, freestanding form, and principles and factors of 3-D organization. Spring semester. *Studio hours 6. Prerequisite: 101; Corequisite: 106 for the art major or approval of department head.*

#### 103 Introduction to Art Education (3)

Examination of a broad range of historical and philosophical issues in art education. Designed to help the student discover values in art education. Lectures, readings, reports, and discussion. On demand.

#### 104 Visual Studies III: Color Theory and Fundamentals (3)

An introduction to color perception and to the principles of color application on a two-dimensional plane. Basic theoretical systems, harmonic systems, pigment

and color mixing, color interaction; historical, psychological and symbolic implications. Spring semester. *Prerequisite for the art major* 101. *Studio hours* 6.

### 105 Drawing I (3)

Introduction to drawing and pictorial composition using basic drawing media in black and white. Primary emphasis on line, form, value, texture, space, shape, and one-point and multiple-point perspective. Fall semester. *Corequisite: 101 for the art major or approval of department head.* *Studio hours* 6.

### 106 Drawing II (3)

Continuing work in drawing with the introduction of color media in pictorial composition. Primary emphasis on analytical skills, cognitive development, development of critical skills, and the exploration of alternative techniques and media. Spring semester. *Studio hours* 6. *Prerequisite: 105.* *Corequisite: 102 for the art major or approval of the department head.*

### 111 Introduction to Art (3)

Designed to heighten perception, appreciation, and enjoyment of the visual arts of the western world, this course examines selected works representative of a broad range of functions, forms, styles, and artistic intentions from prehistoric to present day. Consideration of the formal elements, design principles, and technical factors of significance in the production of works. Every semester. For the non-art major.

### 199r Special Projects (1-4)

Every semester. *Prerequisite: approval of department head.*

### 200r Portfolio Review (0)

Participation in a portfolio review of individual student work for the sophomore and transfer student. Written and oral presentation required. The review process will be used to evaluate an individual's studio progress and assist in the identification of an area of concentration. Spring Semester. Evaluated on a satisfactory/no progress basis. *Prerequisite: Application for the portfolio review; completion of Art 101, 102, 105, 106 and one additional Art course as identified in the program admission guidelines.*

### 203 Introduction to Printmaking (3)

Survey of printmaking history and processes. Limited studio experience in basic techniques of relief, intaglio, lithography and screen printing. Spring semester. *Prerequisite: Art 102, 106, or approval of department head.* *Studio hours* 6.

### 205, 206 Drawing III, IV (3, 3)

Figure, landscape, and still life subjects approached from the stand point of their compositional and expressive possibilities. Experimentation with various media. Study of art anatomy. 205 fall semester, 206 spring semester. *Prerequisites: 101, 105, 106.* *Courses are sequential for art majors; 205 prerequisite to 206.*

### 207, 208 Painting I, II (3, 3)

Painting of still life, landscape, and abstract compositions in oil emphasizing color relationships and composition as essential means of pictorial expression. 207 fall semester, 208 spring semester. *Prerequisites for art majors: 101, 105, 106.* *Courses are sequential for art majors; 207 prerequisite to 208.*

### 214 The History of Western Art from Prehistoric through Medieval (3)

Designed to heighten perception, appreciation, and enjoyment of the visual arts of the western world, this course examines selected works representative of a broad range of functions, forms, styles, and artistic intentions. The visual arts of the Prehistoric, Ancient Near Eastern, Egyptian, Greek, Roman, Early Christian, Byzantine, Romanesque, and Gothic periods will be introduced. The art historical development, formal elements, design principles, and technical factors of significance in the production of works. Fall semester.

### 215 The History of Western Art from the Renaissance to the Present (3)

Designed to heighten perception, appreciation, and enjoyment of the visual arts of the western world, this course examines selected works representative of a broad range of functions, forms, styles, and artistic intentions. The art of the Renaissance, Baroque, Rococo, and Romantic periods, and of the various movements of the modern era in the 19th and 20th Century are the focus of this survey. Consideration of the formal elements, design principles, and technical factors

of significance in the production of works of this period. Emphasis will be placed on the relationship of art and society. Spring semester. *Prerequisite: 214.*

### 233 Sculpture I (3)

Emphasis on basic sculpture processes and materials associated with mold making, casting, carving, and fabrication (construction). Fall semester. *Prerequisites: Art 102.* *Studio hours* 6.

### 244 Ceramics I (3)

Problems in the hand methods of forming clay and use of the potter's wheel. Study of form, color, and texture with a concern for basic ceramic technology. On demand. *Prerequisites: 101, 105, 106 or approval of department head.* *Studio hours* 6.

### 260 Drawing for Graphic Design (3)

Drawing for the graphic designer, focusing on observation, analysis, and visual representation of 3-D form in 2-D space. The design process is followed from concept through completion including the development of hand skills with design tools, systems and production methods. Fall semester. *Prerequisites: Art 102, 106.* *Studio hours* 6.

### 271 Basic Typography (3)

An introduction to typography as a means of visual communication. Emphasis on uniting aesthetics with visual clarity. Innovative solutions to applied problems concerning the organization of textual information, with particular emphasis on composition. Introduction to technical information regarding typographic specification. Manual and computerized production techniques. Spring semester. Formerly Art 261. *Prerequisite Art 260.* *Studio hours* 6.

### 281 Photography (3)

Introduction to black and white photography as an art form with emphasis on composition. Basic camera operation, film processing, and darkroom printing. Adjustable lens camera required. Every semester. *Prerequisites: Art 101.* *Credit not allowed in both Art 281 and 251.*

### 300 Digital Media (3)

An introduction to the computer as a means of visual communication. Emphasis on uniting aesthetics and visual clarity within the context of digital media. Introduction to a variety of computer software and hardware. Every semester. *Prerequisites: Art 101, 106, or approval of department head.* *Studio hours* 6.

### 301 Art Structure (3)

An exploration of the visual arts to enhance critical perception and appreciation of art with experiences in describing, analyzing and comparing various examples. Involves studio experiences in painting, drawing, sculpture, and other media as well as written work in art history and contemporary theory and criticism. Every semester. For the non art major.

### 303r Watercolor (3)

Basic techniques in transparent watercolor with emphasis on materials, process, and composition. Fall semester. *Prerequisite: Art 102, 106, 207.* *Studio hours* 6.

### 305 Printmaking: Intaglio (3)

Work in single and multi-color intaglio processes, including line etching, aquatint, and photo-intaglio. Fall semester. *Prerequisites: 101, 102, 104, 106 and 203, or approval of department head.* *Studio hours* 6.

### 306 Printmaking: Lithography (3)

Work in single and multi-color lithography using hand-drawn and photographic methods. Fall semester. *Prerequisites: 101, 102, 104, 106 and 203 or approval of department head.* *Studio hours* 6.

### 307, 308 Painting III, IV (3, 3)

Figure, still life, and landscape composition in oil, watercolor, acrylic, and mixed media. Problems in analytical study and creative interpretation. On demand. *Prerequisites: 208.* *Courses are sequential, 307 prerequisite to 308.* *Studio hours* 6.

### 314 The History of Modern Architecture (3)

American architecture from the late 18th century to the present. Begins with the French "Visionary" architects, proceeds to the British Arts and Crafts Movement, German Expressionism, American Period revivals, and International Style. Also

covers Art Nouveau, Art Deco, Frank Lloyd Wright and the Prairie School, progressive architecture in Holland, Italy, and Japan, and advent of Post Modernism. Emphasis on the relationship between architectural and sociopolitical scenes of the modern world. Fall semester alternate years. *Prerequisite: Art 215.*

### 315 History of Modern Painting and Sculpture (3)

A survey of the last 100 years of western painting and sculpture from Post-Impression to Post-Modernism. Fall semester alternate years. *Prerequisite: 215.*

### 323, 324 Materials and Procedures in Art Education (3, 3)

Exploratory activities designed to acquaint the prospective teacher of art with a representative range of appropriate art materials and the procedures which promote their effective use in grades one through twelve. First semester: elementary, preschool through fifth. Second semester: secondary, grades six through twelve. Two-dimensional and three-dimensional studio projects, lectures, and discussion included in both courses. 323 spring semester, 324 fall semester alternate years. *Prerequisite to student teaching.*

### 336 Sculpture II (3)

Work in sculpture with emphasis on development of skills and 3-D media introduced in Sculpture I. Spring semester. *Studio hours 6. Prerequisite: 233.*

### 337, 338 Three Dimensional Studio I, II (3, 3)

Development and exploration of contemporary concepts and media in 3-D studio areas. On demand. Sequential. courses. *Studio hours 6. Prerequisites: Art 233, 244.*

### 340 Visual Arts for Children (1)

Implementation of discipline based visual arts concepts for the child. Fall and spring semesters. *Prerequisites: Theatre and Speech 115, Psychology 221 or Human Ecology 241, Art 301, Music 111. Corequisites: Music 340, Theatre and Speech 340.*

### 344 Ceramics II (3)

Development of student's individual style through use of design elements and technical skill. Kiln use and general laboratory techniques. On demand. *Studio hours 6. Prerequisite: 244.*

### 345 Ceramic Materials for the Studio (3)

Investigation of ceramic materials and development of clay bodies and glazes for the ceramist. First, introduction to ceramic materials followed by development of clay bodies and glazes for specific studio applications. On demand. *Studio hours 6. Prerequisite: 344.*

### 361 Processes and Materials for Graphic Design (3)

Investigation of the concept and application of design through commercial formats. Budget constraints of print media. Design and production of mechanicals for various print processes. Skills, craftsmanship, and visual aesthetics are emphasized. Spring semester. *Studio hours 6. Prerequisites: Art 271, 380.*

### 362 Illustration for Graphic Design (3)

A consideration of the image as visual communication. Design of graphic idioms: poster, book cover, and broadside. Coordination of text and image. Spring semester. *Studio hours 6. Prerequisites: 205, 271.*

### 371 Intermediate Typography (3)

A continued study in theoretical and applied issues of typography, focusing on creative and innovative use of type selection and specification. Typography as visual communication. Fall semester. *Studio hours 6. Prerequisite: Art 271.*

### 380 Photography for Graphic Design (3)

Photography as a medium for design and presentation. Application of reproduction methods for the graphic arts field using photographic tools as a form of a design aesthetic. Fall semester. *Studio hours 6. Prerequisites: Art 281, 260.*

### 381 Color Photography (3)

Introduction to the principles and theory of color photography. Techniques covered are color film processing, color printing, slide presentations, and applied technology. Exploration of media for creative expression. On demand. *Studio hours 6. Prerequisite: 281 or approval of department head.*

### 401 Visual Arts Internship (3)

Practical experience in a professional environment to provide individuals with the opportunity to be supervised in art-related agencies. These would include, but not be limited to, advertising and media industries, art museum operation, gallery management, etc. Every semester. *Prerequisites: declared major, 75 accumulated credit hours minimum, 21 hours in art, approval of department head during the preceding semester.*

### 405, 406 Drawing V, VI (3, 3)

Individual problems in the application of drawing techniques and styles. Continued exploration of life drawing from the human figure. On demand, courses are sequential. *Studio hours 6. Prerequisite: Art 206.*

### 407, 408 Painting V, VI (3, 3)

Development of individual style in painting through selected media, conceptual intent, and compositional approaches. On demand, courses are sequential. *Studio hours 6. Prerequisite: Art 308.*

### 409 Senior Studio in Painting and/or Drawing (3)

Selected problem in painting or drawing to further the development of a student's aesthetic, and which culminates in a body of work of exhibition quality. On demand. *Studio hours 6. Corequisite: Art 408.*

### 410 Photo Printmaking (3)

This course integrates photographic imagery with the printmaking processes of etching and lithography methods. Emphasis is placed on technical skills, further development of personal imagery, and exploration of photographic imagery. On demand. *Prerequisite: Art 203 or 305 or 306, or approval of instructor and department head.*

### 411 Artist's Books (3)

This course introduces book making as a printed art form. Emphasis is placed on experimentation with a wide range of media to create a number of handmade books. The printmaking methods will include such techniques as intaglio, relief, photo etching, photolithography and monoprint. On demand. *Prerequisite: Art 203 or 305 or 306, or approval of instructor and department head.*

### 414 Major Trends in American Art (3)

The visual arts of the United States including the arts of the European settlers and the first generation Americans of the Colonial Period, the great portraitists of the Revolution and the 19th century, the 19th century landscapists, the pioneer modernists of the early 20th century, and the regionalists of the 1930's. Culminates with the first American style to achieve international significance, the New York School, and the resultant dominance of American art in the world today. Spring semester. *Prerequisite: 215.*

### 437, 438 Three Dimensional Studio III, IV (3, 3)

Directed study of student-selected 3-D problems and processes with primary focus on nontraditional forms. On demand. Courses are sequential. *Studio hours 6. Prerequisite: Art 338.*

### 439 Advanced Three Dimensional Studio (3)

Directed study of student-selected 3-D problems and processes with emphasis on development of personal aesthetic. On demand. *Studio hours 6. Prerequisite or Corequisite: Art 437.*

### 440 Senior Studio in Sculpture (3)

Selected problems in the 3-D area to further the development of a student's aesthetic, and which culminates in a body of work of exhibition quality. On demand. *Studio hours 6. Prerequisite: Art 439.*

### 461r Printmaking: Special Topics (3)

Advanced study in printmaking to further the development of a student's aesthetic and culminating in a body of work of exhibition quality. On demand. May not repeat the same topic. *Studio hours 6. Prerequisite: Art 203 and upper division standing in the major or approval of department head.*

### 465, 466 Problem Solving in Graphic Design (3, 3)

Advanced study in graphic design, focusing on applied problems. Emphasis on formal, intellectual, aesthetic and pragmatic issues. Problems integrating word and image, organization of information, visual interpretation. Work leading to significant portfolio development. Fall and Spring semesters. *Studio hours 6. Courses are*

*sequential; 465 prerequisite to 466.*

#### 468r Ceramics: Special Topics (3)

Group studies at the upper level using ceramic media. Emphasis on development of advanced technical skills necessary to solving studio problems. On demand. *Studio hours 6. Prerequisite: Art 344.*

#### 471 Advanced Typography (3)

Computer applications for typography. Advanced study in typography composition. Techniques in manipulation of type. Spring semester. *Studio hours 6. Prerequisite: Art 371.*

#### 490r Seminar in Art Education (3)

Emphasis on contemporary issues in art education. On demand.

#### 491 Professional Preparation for the Visual Artist (3)

An opportunity to examine professional protocol and expectations in the art community. Students will study how to critically write about their art and the artwork of others. Grant writing and how to apply for admission to graduate schools will be addressed in addition to preparing professional portfolios and preparing to exhibit their art. All graduating seniors majoring in art will collectively collaborate on the mounting of an exhibition. Spring semester. *Prerequisite: Application for Senior Exhibition in the fall semester, senior standing in the BFA major or approval of department head.*

#### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

Every semester. See "Departmental Honors," page 39.

#### 497r Research (1-4)

Every semester.

#### 498r Individual Studies (1-4)

Every semester.

#### 499r Group Studies (1-4)

Every semester.

## Biological and Environmental Sciences

Professor Charles Nelson, *Head*

The Department of Biological and Environmental Sciences offers three majors: a B.S. in biology, a B.S. in medical technology and a B.S. in Environmental Science. The course requirements are listed below.

Students are urged to consider attendance at the institution affiliated with UTC's Department of Biological and Environmental Sciences that offers field course experience in the life sciences: Gulf Coast Research Laboratory, Ocean Springs, Mississippi, offering courses in marine biology.

Preprofessional programs in dentistry, medical technology, medicine, cytotechnology, dental hygiene, pharmacy, and veterinary medicine are described in the Preprofessional Programs section of the catalog. See page 36.

### Biology (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** Biology 216\* (4 hours) or Mathematics 210 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

#### Major and Related Courses

English 278 or Biology 495

Foreign Language through first college year in one foreign language

Mathematics 131 and 136; OR 144, 145 and 151/152 (Initial course in Mathematics sequence is dependent upon UTC Math Placement.)

Chemistry 121/123, 122/124, 351/353, 352/354.

Biology - 38 hours including 121, 122 (a grade of C or better must be earned in 122 in order to take courses beyond the 100 level for which 122 is a prerequisite), 325 (326 required for the molecular concentration but is an elective for all other concentrations), four laboratory courses above the 100 level, 3 hours of a single, formal lecture or laboratory course at the 400 level.

No more than 4 hours of 497r and/or 498r may be counted as part of the 38 hours of biology. All senior level students must take a major field achievement test in biology prior to graduation.

2.0 average in all biology courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

**Each biology major must also complete the requirements for one of the following concentrations.**

### 2126 - General Biology

Physics 103/183, 104/184 or Geology 111/181, 112/182 (Physics 103/183, 104/184 recommended for prospective graduate students)

Biology courses:

Botany (select 1 course) - 207, 351, 352

Zoology (select 1 course) - 312, 313, 320, 330, 340, 342, 403, 408, 456, 457, 458 (Courses offered in Botany and Zoology at Gulf Coast Research Laboratory may be substituted. Approval of the department head required)

Ecology and Evolution (select 1 course) - 306/307, 315, 416, 440, 450, ESC 406

Cell and Physiology (select 1 course) - 304, 311, 323, 412, 420, 428, 460, 463

Recommended electives: Chemistry 341, 466

### 2127 - Preprofessional (Premedical, Predental)

Chemistry 466, Physics 103/183 and Physics 104/184

Biology courses:

Botany (select 1 course) - 207, 351, 352.

Zoology (select 1 course) - 313, 330, 403

Ecology and Evolution (select 1 course) - 306, 315, 416, 450

Cell and Physiology (select 2 courses) - 311, 323, 428

One additional course to be chosen from

Zoology - 312, 313, 320, 330, 340, 342, 403, 408, 456, 457, 458

**OR**

Cell and Physiology - 304, 323, 412, 420, 460, 463

Recommended elective - Classics 300

### 2128 - Ecology

Physics 103/183, 104/184 or Geology 111/181, 112/182 (Physics 103/183, 104/184 recommended for prospective graduate students)

Biology courses:

Botany (select 1 course) - 207, 351, 352



Zoology (select 1 course) - 312, 313, 320, 330, 340, 342, 403, 408, 456, 457, 458 (Courses offered in Botany and Zoology at Gulf Coast Research Laboratory may be substituted. Approval of the department head required.)  
 Ecology and Evolution (select 3 courses) - 306/307 (required), 315, 416, 440, 450, ESC 406  
 Cell and Physiology (select 1 course) - 304, 311, 323, 428, 460, 463  
 Recommended electives: Geography 221, Geology 123

## 2129 - Organismal Biology

Mathematics: 144, 145 and 151/152 recommended for prospective graduate students.  
 Physics: 103/183, 104/184 or Geology 111/181,112/182 (Physics 103/183, 104/184 recommended for prospective graduate students)  
 Biology courses:  
 Botany and Zoology (select 4 courses) - 207, 312, 313, 320, 340, 342, 351, 352, 403, 408, 456, 457, 458 (A minimum of one botany and one zoology course must be taken. Courses offered in Botany and Zoology at Gulf Coast Research Laboratory may be substituted. Approval of the department head required.)  
 Ecology and Evolution (select 2 courses) - 306/307, 315, 416, 440, 450, ESC 406  
 Cell and Physiology (select 1 course) - 304, 323, 460  
 Recommended elective: Chemistry 466

## 2130 - Molecular

Mathematics 144, 145 and 151/152 recommended for prospective graduate students.  
 Chemistry 466, Physics 103/183 and Physics 104/184  
 Biology courses:  
 Botany (select 1 course) - 207, 351, 352  
 Zoology (select 1 course) - 312, 313, 320, 330, 340, 342, 403, 408, 456, 457, 458  
 Ecology and Evolution (select 1 course) - 306, 315, 416, 450, ESC 406  
 Cell and Physiology - 311, 326, 412, 420, 428  
 Recommended elective: Chemistry 341

## 4520 - BIOLOGY MINOR

The Biology Department offers a minor requiring 20 hours of biology including Biology 121, 122 and eight hours at the 300 level or above.  
 Minimum 2.0 average in the minor.

## 2774 - Medical Technology (B.S.)

**General Education** (see pages 33-36 for list of approved courses)  
**Rhetoric and Composition:** English 121, 122 (6 hours)  
**Mathematics:** One approved mathematics course (3 hours); related course noted below will apply  
**Statistics:** Biology 216 (4 hours) or Mathematics 210  
**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)  
**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)  
**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)  
**Behavioral and Social Sciences:** Two approved behavioral or social science courses (6 hours)

### Major and Related Courses

English 278 or Biology 495  
 Mathematics 131 and 136 OR 144, 145 and 151/152. Initial course in Mathematics sequence is dependent upon UTC Math Placement. Math 144, 145 and 151/152 is recommended for prospective graduate students.  
 Physics 103/183 and 104/184, and 16 hours of chemistry including 121/123, 122/124, 351/353, either 354 or 341  
 Biology courses including 121, 122, 208, 209, 311, 412; one course from 315, 325, 403, 425; and one course from 306-307 or 408  
 30 hours from approved school of medical technology  
 Recommended Electives: Foreign Language through 102 (first year college)  
 2.0 average in all biology courses.

Minimum of 39 hours of 300 and 400 level courses.  
 Electives to complete 120 hours.  
 See page 35 for additional requirements.

## Environmental Science (B.S.)

The environmental science major consists of two parts: 1) a core curriculum required of all majors and 2) a concentration of study in one of the following areas: biology, chemistry, engineering, geology, geography, mathematics, physics, or sociology/anthropology. Environmental science courses are described below; all other required courses are described in the listings of other departments named.

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours); related course noted below will apply

**Statistics:** Biology 216 (4 hours) or Mathematics 210

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses (6 hours)

### Major and Related Courses

The following core requirement must be completed by all Environmental Science majors.

English 278 or Environmental Science 495

Mathematics 131 and 136 OR 144, 145 and 151/152 (Mathematics 144, 145, 151/152 are required for the Chemistry and Engineering Science Concentrations.)

33 hours including Environmental Science 150, 151, 410, 484; Biology 306/307; Geography 221; and courses from the areas:

Environmental Policy and Planning (select 1 course): Environmental Science 407, 430, Sociology 209, Communication 410, Economics 430

Environmental Resources (select 1 course): Biology 251, Environmental Science 240, 250, 406, 440, 460, ESC/Geology 225, Geology 436, 445 required for Engineering Science concentration)

Environmental Methods (select 1 course): Environmental Science 340, 360, Environmental Engineering 431, Geography 465, 466

Senior Experience (2 credit minimum): Environmental Science 480, 490, 491r, 495r, 496r, 497r, 498r

Three laboratory courses above the 100 level from either the core or concentration requirements.

Each Environmental Science major must also complete the requirements for one of the following concentrations:

### 2331 - Biology

Chemistry 121/123, 122/124, 341, 351/353

Biology 121, 122

Three courses from Biology 207, 311 (recommended), 312, 313, 325, 342, 351, 352, 408, 416, 456, 457, 458

Two courses from Environmental Science 406, 440, 460 or Environmental Science/Geology 225

### 2333 - Chemistry

Biology 121, 122

Chemistry 121/123, 122/124, 341, 342, 351/353, 352/354

Environmental Science 225 (226 recommended)

Physics 103/183, 104/184

## 2335 - Engineering Science

Chemistry 121/123, 122/124, 351/353  
 Engineering 103, 104, 113, 185, 211, 224,  
 Environmental Engineering 331 and 437  
 Mathematics 161/162, 212, 245

## 2338 - Geography

Sociology 151, 209, 314  
 Geology 111/181, 112/182  
 21 hours from Geography, 9 of which must be at the upper level. These hours are additional to any Geography hours taken as part of the 30 hours required of all ESC majors. With approval of the Biology/Environmental Science department head, Geology 307 or Biology 416 or an upper level ESC course may be substituted for 3 hours.

## 2337 - Geology

Chemistry 121/123, 122/124  
 Geography 101 or Geology 108  
 Geography 206 (409 recommended)  
 Geology 111/181, 112/182, 341, 342, and 9 additional hours from 225, 454, 407, 436, 445, or 496r. These hours are additional to any Geology hours taken as part of the 30 hours required of all ESC majors.

## 2339 - Mathematics

Mathematics 161/162, 212, 245, 255, 300, 308, 350, 407, 408, 412; two courses from 414, 424, 428, 440, 445, 460 or 470  
 One two-semester sequence from biology, chemistry, engineering, geology, physics

## 2343 - Sociology-Anthropology

Sociology 151, 314, 414; either Anthropology 152 or 208; either Anthropology 302 or Sociology 312; additional 15 hours from Anthropology 211, 335, 356, 410, and Sociology 209, 219, 300, 305, 317, 318, 331, 340, 415, 440, 430 and Communication 410 (minimum 9 hours selected from these additional courses at 300-400 level); one two-semester sequence from biology, chemistry, geology, or physics.

2.0 average in all environmental science courses.  
 Minimum of 39 hours of 300 and 400 level courses.  
 Electives to complete 120 hours.  
 See page 35 for additional requirements.

## ENVIRONMENTAL SCIENCE MINORS

### 4554 - Environmental Science

20 hours including Environmental Science 150, 151 and 12 hours environmental science courses at the 300-level or above.  
 Minimum 2.0 average in the minor.

### 4565 - Geographic Information Science

18 hours not applicable toward a major in Environmental Science including Geography/Environmental Science 465, 466; one course from Biology 216, Mathematics 210, or Psychology 201/204; and remaining hours from Environmental Studies 498r, Geography 221, Geology 454.  
 Minimum 8 hours at the 300-400 level.  
 Minimum 2.0 average in courses attempted for the minor.

## BIOLOGY COURSES (BIOL)

### 110 Conservation of Biodiversity (3)

An introduction to systematic ways in which the human mind comprehends the natural world; emphasis on studies of living systems, natural processes, and related phenomena including evolution, population biology, ecosystem properties, biomes, extinction, human overpopulation, deforestation, global climate change, preservation of species, conservation ethics and economics, public policy, and sus-

tainability. Every semester. *Lecture 3 hours. Credits not allowed toward the Biology and Environmental Science majors if the student has previously completed Biology 122 or Environmental Science 151. May be registered as Environmental Science 110. Credit not allowed in both Biology and Environmental Science 110.*

### 119 Light and Life (4)

Examines the methods of investigation that lead to our understanding of light and its role in nature and human development. *Lecture 3 hours, laboratory 2 hours. Prerequisite: Math Placement level 20. Credit not allowed toward the chemistry, physics, geology, biology or environmental sciences majors. May be registered as Chemistry 119 or Physics 119. Credit allowed in only one of the three courses.*

### 121 Principles of Biology I (4)

An introduction to systematic ways in which the human mind comprehends the natural world; emphasis on studies of living systems, natural processes, and related phenomena including methods of the biologist, Darwin's evolutionary theory, role of organic molecules in biological systems, structure and function of the cell, cellular division, Mendelian inheritance, molecular genetics, physiology of digestion, respiration and fluid regulation, and animal behavior. *Every semester. Lecture 3 hours, laboratory 2 hours. Prerequisite: UTC Math Placement Level 15 or Math 105 or equivalent.*

### 122 Principles of Biology II (4)

An introduction to systematic ways in which the human mind comprehends the natural world; emphasis on studies of living systems, natural processes, and related phenomena including modern evolutionary theory, photosynthesis, cellular respiration, the survey of kingdoms, ecology, and nervous and hormone control on effectors. *Every semester. Lecture 3 hours, laboratory 2 hours. Prerequisite: 121 with a grade of C or better.*

### 191 Functional Human Anatomy (4)

The structure of the human body as seen in its various levels of organization: cellular, tissue, organ, and system. *Every semester. Lecture 3 hours, laboratory 2 hours.*

### 199r Special Projects (1-4)

On demand. Maximum credit 4 hours. *Prerequisite: approval of instructor.*

### 207 Plant Morphology (4)

A study of the form, reproductive processes, and evolutionary relationships of the principal nonvascular and vascular plant groups. *Spring semester. Lecture 3 hours, laboratory 2 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C.*

### 208 Human Physiology (3)

Lecture studies of the physiological functions of the human body. Formerly 192. *Every semester. Corequisites: Biology 209; Chemistry 121/123.*

### 209 Laboratory Studies in Human Physiology (1)

Laboratory studies of the physiological functions of the human body. Formerly 193. *Every semester. Laboratory 2 hours. Pre- or corequisite: Biology 208.*

### 210 Microbiology and Health (4)

Microorganisms as related to disease, immunity, food preservation, and sanitation. *Every semester. Lecture 3 hours, laboratory 2 hours. Prerequisite: Chemistry 121/123 or equivalent.*

### 216 Biostatistics (4)

An introduction to statistical methods used by researchers in the biological and behavioral sciences including descriptive statistics, hypothesis testing, analysis of variance, regression and correlation, and several nonparametric techniques. *Lecture 3 hours and laboratory 2 hours. Prerequisites: UTC Math Placement Level 30 or Math 131 with a minimum grade of C, and Computer Science 110 with a minimum grade of C.*

### 251 Economic Botany (3)

An introduction to the origins, history, diversity and importance of plants in the human experience. History of the domestication of important crops and the impact of plants on the quality of human life covered. Ethnobotany and the impacts of agriculture and exotic plants will be discussed as they relate to the future of the world's supply of food, fiber, medicines and other plant products. *Prerequisite: Biology 122 with a minimum grade of C; Environmental Science 151 or equivalent.*

**304 Plant Physiology (4)**

Vascular plant structure and function emphasizing physiological activities, such as photosynthesis, water relations, mineral nutrition, and hormonal action. On demand. *Lecture 3 hours, laboratory 2 hours. Prerequisites: Biology 122 with a minimum grade of C; Chemistry 121/123, 122/124 or equivalent. Pre- or corequisite: Chemistry 351/353.*

**306 Ecology (3)**

The community concept with reference to structure, energy, cycles, and populations; the distribution of plants and animals with analyses of the factors involved. Spring, fall, or summer semester. *Prerequisite: Biology 122 or Environmental Science 150 or equivalent with a minimum grade of C, or approval of instructor.*

**307 Ecology Laboratory (1)**

Field application of ecological principles. Spring, fall, or summer semester. *Laboratory 2 hours. Field trips. Prerequisite: Biology 122 or Environmental Science 151 or equivalent with a minimum grade of C. Corequisite: 306.*

**311 Principles of Microbiology (4)**

Morphology and physiology of microorganisms. Spring semester. *Lecture 2 hours, laboratory 4 hours. Credit not allowed in both Biology 210 and 311. Prerequisites: Biology 122 with a minimum grade of C, Chemistry 122/124 or equivalent.*

**312 Invertebrate Zoology (4)**

A survey of the invertebrate phyla up to the chordates with an emphasis on their evolution, morphology, and physiological adaptations. Formerly 225. Fall semester alternate years. *Lecture 3 hours, laboratory 2 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C.*

**313 Comparative Vertebrate Zoology (4)**

The biology of the phylum Chordata, in particular the vertebrates, with an emphasis on their systematics, structural evolution, and functional morphology. Laboratory dissection of the shark, salamander, and cat. Fall or spring semester. *Lecture 2 hours, laboratory 4 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C.*

**315 Evolution (3)**

Evidences of evolution; mechanism of natural selection; role of genetic factors in the diversity of populations; origin of races; species and higher categories; adaptation and behavior; recognition of evolutionary relationships; significance of evolution to the human species. Spring semester alternate years. *Prerequisite: Biology 122 or equivalent with a minimum grade of C.*

**320 Animal Behavior (4)**

The principles of animal behavior emphasizing the proximate mechanisms of behavior. Topics include behavioral genetics, ontogeny, learning, perception, communication, and play. Fall semester. *Lecture 3 hours, laboratory 2 hours. Prerequisites: Biology 122 with a minimum grade of C or approval of the instructor.*

**323 Introductory Animal Physiology (4)**

A detailed analysis of selected aspects of animal physiology. For students whose primary interest is biological science. On demand. *Lecture 3 hours, laboratory 3 hours. Prerequisites: Biology 122 with a minimum grade of C, Chemistry 122/124.*

**325 Genetics (3)**

Principles of classical (Mendelian), molecular, and population genetics including patterns of inheritance, genetic code and regulation of protein synthesis, recombinant DNA techniques, and evolution of the genome at the population and molecular levels. Fall semester. *Prerequisites: Biology 122 with a minimum grade of C, Chemistry 122/124 or equivalent. Corequisite (Biology major only): 326.*

**326 Genetics Laboratory (1)**

Investigations in classical, molecular, and population genetics. Fall semester. *Laboratory 2 hours. Pre- or corequisite: 325.*

**330 Histology (4)**

Structure of animal tissues and organ levels with emphasis on recognition, origin, and function of mammalian tissues. Spring semester alternate years. *Lecture 2 hours, laboratory 4 hours. Prerequisites: Biology 122 with a minimum grade of C, Chemistry 122/124 or equivalent. Biology 191 or 313 recommended, Chemistry 352/354 recommended or approval of the instructor.*

**340 Herpetology (4)**

Morphology, ecology, taxonomy, and evolution of amphibian and reptiles. Spring, fall, or summer semester. *Lecture 3 hours, laboratory 2 hours. Dissections and field trips. Prerequisites: 122 or equivalent with a minimum grade of C.*

**342 Entomology (4)**

Principles of entomology including the morphology, development, taxonomy, ecology, and importance of insects. Fall semester alternate years. *Lecture 3 hours, laboratory 2 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C.*

**351 Mycology (4)**

An introduction to the Kingdom Fungi: Mushrooms, molds, and yeasts. Morphology, life histories, classification, genetics, physiology, development, ecology, medical and economic importance of fungi. *Lecture 3 hours, laboratory 2 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C.*

**352 Taxonomy of Vascular Plants (4)**

Speciation; breeding systems; pollination systems; edible and poisonous plants; and origin of flowering plants. Laboratories emphasize identification of flowering plants, conifers, and ferns. Some field work required. Spring semester. *Lecture 2 hours, laboratory 4 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C.*

**403 Developmental Vertebrate Embryology (4)**

Current developmental processes and concepts drawn from selected invertebrate studies, but with major emphasis on experimentation in higher vertebrates. Laboratory explores vertebrate development through embryological slides, films and experimentation. Spring semester each year. *Lecture 2 hours, laboratory 4 hours. Prerequisite: Biology 122 with a minimum grade of C; Biology 313 and 325 recommended. Pre- or corequisite: Chemistry 352/354. Approval of the instructor in some cases.*

**406 Limnology and Reservoir Ecology (3)**

Chemical, physical, and biological processes in lake and reservoir systems (nutrient budgets and cycling, hydrodynamics, phytoplankton/zooplankton/benthic dynamics, and physical similarities and differences in lakes and reservoirs). Fall semester alternate odd years. *Lecture 2 hours, laboratory 2 hours. Prerequisites: general chemistry, general biology, ecology, junior standing; general physics recommended. May be registered as Environmental Science 406. Credit allowed in only one of the two courses.*

**408 Parasites of Man (4)**

Life cycles, ecology, and physiology of the parasites of human beings including the diseases caused by these parasites. Formerly 308. On demand. *Lecture 2 hours, laboratory 4 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C, or approval of instructor.*

**412 Immunology (3)**

Interactions between mammalian immune system cells and foreign substances. Emphasis on immunological disorders. Fall semester. *Prerequisite: 210 or 311.*

**416 Biogeography (3)**

A study of the distribution of plants and animals from a climatic and historical perspective. Fall semester. *Prerequisite: Biology 122 with a minimum grade of C.*

**420 Molecular Genetics (3)**

Genetic structure and regulation focusing on modern techniques and applications of genome manipulation. Spring semester. *Prerequisite: 325 or 428.*

**428 Cellular Biology (4)**

Morphological and chemical organization of the cell; cellular metabolism; metabolic energy relationships; nature of enzymes; fermentative and oxidative metabolism; photosynthesis. Fall and/or spring semester. *Lecture 3 hours, laboratory 2 hours. Prerequisites: Biology 122 with a minimum grade of C, Chemistry 352/354, Mathematics 131 or equivalent.*

**440 Tropical Marine Ecology (4)**

An examination of tropical marine habitats at the species, population and ecosystem levels with particular emphasis on seagrass beds, coral reefs, mangrove forests, tidal rivers and lakes, and the intertidal zone. The required field components is a one-week experience at a field station in the Caribbean. *Lecture 2 hours, laboratory/field experience 4 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C, or Environmental Science 151 or equivalent with a grade of C.*

**450 Systematics (3)**

Principles of systematic biology including contemporary systematic philosophies, problems of species and speciation, taxonomic characters and interpretation, construction of evolutionary trees, higher categories and classification, nomenclature, taxonomic collections and procedures of identification. On demand. *Prerequisites:* Biology 122 or equivalent with a minimum grade of C.

**456 Ichthyology (4)**

The biology of fishes, with an emphasis on the functional morphology, systematics, evolution, diversity, distribution, and ecology of fishes. Laboratory includes identification of the diversity of regional fish faunas, as well as laboratory dissections and field trips. Spring or fall semester. *Lecture 3 hours, laboratory 3 hours. Prerequisites:* Biology 313, (or equivalent courses) or approval of the instructor.

**457 Mammalogy (4)**

The biology of mammals, with an emphasis on diversity, distribution, systematics, structural evolution and paleontology, and functional morphology. Laboratory includes identification of regional diversity, as well as dissections and field trips. Spring semester alternate years. *Lecture 3 hours, laboratory 3 hours. Prerequisites:* Biology 313 (or equivalent courses) or approval of the instructor.

**458 Ornithology (4)**

The biology of birds with an emphasis on avian evolution, taxonomy, anatomy and physiology, ecology, behavior and distribution. Laboratory includes identification of regional avifauna, as well as field trips and dissections. Spring semester. *Lecture 3 hours, laboratory 3 hours. Prerequisites:* Biology 313 or approval of the instructor.

**460 Toxicology (4)**

Basic principles of toxicology, including physiological responses to toxicants, toxic effects, elimination of toxic agents, fundamental laws governing the interaction of foreign chemicals with biological systems, and toxicity testing methods. Lab component addresses analytical methods for measuring physiological responses to toxicant exposure. *Lecture 2 hours, laboratory 4 hours. Prerequisites:* Environmental Science 151 or Biology 121 or 122 with a minimum grade of C, Chemistry 122/124 or equivalent, Chemistry 351/353, Mathematics 131 or equivalent. May be registered as Environmental Science 460. Credit not allowed in both Biology and Environmental Science 460.

**463 Endocrinology (3)**

The hormones of animals with emphasis on those of mammals. Fall semester. *Prerequisites:* Biology 122 with a minimum grade of C, Chemistry 122/124.

**494r Biology Seminar (1)**

Presentation of programs of current biological interest by students, faculty, and outside speakers. On demand. *Prerequisite:* 16 semester hours biology. Maximum credit: 2 hours.

**495r Departmental Honors**

(1-3 hours per term, 4 hours for the two terms)

Every semester. See "Departmental Honors," page 39.

**496r Biological Techniques (1)**

The study of various procedures dealing with such diverse topics as instrumentation, photomicrography, or special field techniques. Subject differs each time offered. On demand. *Prerequisite:* 15 hours of biology and approval of instructor.

**497r Research (1-4)**

Every semester. *Prerequisite:* approval of instructor and head of the department.

**498r Individual Studies (1-4)**

Every semester. *Prerequisite:* approval of instructor and head of the department.

**499r Group Studies (1-4)**

On demand.

**ENVIRONMENTAL SCIENCE COURSES (ESC)****110 Conservation of Biodiversity (3)**

See Biology 110. Credit not allowed toward Biology or Environmental Science majors if student has previously completed Biology 122 or Environmental Science 151. May be registered as Biology 110. Credit not allowed in both Biology and Environmental Science 110.

**150 Introduction to Environmental Science I (4)**

An introduction to systematic ways in which the human mind comprehends the natural world; emphasis on studies of living systems, natural processes, and related phenomena including basic ecological principles and environmental problems at local, national, and global levels. Topics to be covered include evolution, ecosystems, human overpopulation, biodiversity, energy sources, solid waste, and pollution of air, water, and soil. The laboratory integrates the scientific approach and provides hands-on experience in identification of abiotic and biotic factors affecting environmental quality. Every semester. *Lecture 3 hours, laboratory 2 hours. Prerequisite:* UTC Math Placement Level 15 or Math 105 or equivalent.

**151 Introduction to Environmental Science II (4)**

An introduction to systematic ways in which the human mind comprehends the natural world; emphasis on studies of living systems, natural processes, and related phenomena including a focus on local environmental problems. Topics covered include a detailed study of the history of conservation, loss of biodiversity, conventional and organic agriculture, water pollution, global climate change, and environmental legislation. The laboratory is a combination of hands-on experiment and field activities. Every semester. *Lecture 3 hours, laboratory 2 hours. Prerequisite:* Environmental Science 150 with a grade of C or better.

**199r Special Projects (1-4)**

On demand. Maximum credit four hours.

**225 Oceanography (3)**

Chemical and physical properties of sea water. Causes and patterns of oceanic circulation. Life zones in the oceans and factors delimiting them. Origin and physiography of ocean basins. Mineral and energy resources of the oceans. Spring semester. May be registered as Geology 225.

**226 Oceanography Laboratory (1)**

Laboratory exercises in oceanography. Spring semester. *Corequisite:* 225.

**240 Introduction to Soil Resources (3)**

Geologic origin, characteristics, and taxonomic groupings of soils, together with emphasis on survey methods and mapping procedures. Conservation and the environmental impact of agricultural and nonagricultural soil and land use. Spring semester alternate odd years. *Lecture 2 hours, laboratory 2 hours. Prerequisite:* Environmental Science 151 or equivalent with a grade of C or better.

**250 World Resources (3)**

Location, utilization, production, consumption, and significance of resources to society. Introduction to the vast, interlocking network of activities that produce and affect the world's use and consumption of resources. Spring semester alternate odd years. May be registered as Geography 250. *Lecture 3 hours. Prerequisite:* Environmental Science 150 or equivalent with a grade of C or better.

**340 Environmental Survey Methods (4)**

Field survey methods for compiling of botanical, zoological, geological, and archaeological data. To include mapping, sampling, and recording. Fall semester alternate even years. *Lecture 2 hours, laboratory 4 hours. Prerequisite:* Environmental Science 151 or equivalent with a grade of C or better.

**360 Air and Water Pollution Control (3)**

The study of the origin, monitoring and control of air and water pollutants; to include sample taking, testing and observation of procedures used in community laboratories. Spring semester alternate odd years. *Lecture 2 hours, laboratory 2 hours. Prerequisites:* one year of a natural science or engineering and fulfillment of the mathematics and statistics requirement for the respective concentration.

**406 Limnology and Reservoir Ecology (3)**

Chemical, physical, and biological processes in lake and reservoir systems (nutrient budgets and cycling, hydrodynamics, phytoplankton/zooplankton/benthic dynamics, and physical similarities and differences in lakes and reservoirs). Fall semester alternate odd years. *Lecture 2 hours, laboratory 2 hours. Prerequisites:* general chemistry, general biology, ecology, junior standing; general physics recommended. May be registered as Biology 406. Credit allowed in only one of the two courses.

**407 Environmental Conservation (3)**

See Geography 407.

**410 Environmental Law and Agencies (3)**

Survey of national, state, and local environmental agencies, and provisions of environmental laws and ordinances at all levels of government. Emphasis on National Environmental Policy Act (NEPA). Analysis and composition and environmental impact statements. Spring semester alternate odd years. *Prerequisite:*

senior standing.

#### 430 Problems in Environmental Management (3)

Case history studies of problems in environmental management, with emphasis on the kinds of environmental precautions required in specific situations and on factors contributing to legal challenges to industrial and technological activities which have environmental consequences. On demand. *Prerequisite: Environmental Science 151 or equivalent with a grade of C or better.*

#### 440 Tropical Marine Ecology (4)

An examination of tropical marine habitats at the species, population and ecosystem levels with particular emphasis on seagrass beds, coral reefs, mangrove forests, tidal rivers and lakes, and the intertidal zone. The required field components is a one-week experience at a field station in the Caribbean. *Lecture 2 hours, laboratory/field experience 4 hours. Prerequisite: Biology 122 or equivalent with a minimum grade of C, or Environmental Science 151 or equivalent with a grade of C.*

#### 455 Demographic Analysis (3)

Techniques of measuring and analyzing human population growth and distribution. Emphasis is placed on relationships of human population changes on environmental resources as well as effects of environment on morbidity and mortality. On demand. *Prerequisite: Environmental Science 151 or equivalent with a grade of C or better.*

#### 460 Toxicology (4)

Basic principles of toxicology, including physiological responses to toxicants, toxic effects, elimination of toxic agents, fundamental laws governing the interaction of foreign chemicals with biological systems, and toxicity testing methods. Lab component addresses analytical methods for measuring physiological responses to toxicant exposure. *Lecture 2 hours, laboratory 4 hours. Prerequisites: Environmental Science 151 or Biology 121 or 122 with a minimum grade of C, Chemistry 122/124 or equivalent, Chemistry 351/353, Mathematics 131 or equivalent. May be registered as Biology 460; credit not allowed in both Biology and Environmental Science 460.*

#### 465 Remote Sensing and Imagery Analysis (3)

See Geography 465.

#### 466 Geographic Information Systems (3)

See Geography 466.

#### 475r Environmental Workshops for Teachers (1-4)

Workshops for science educators in environmentally related topics such as the conservation of endangered species, soil conservation, or water quality and water resource conservation. Designed to provide teachers with laboratory or field experiences and materials related to the environmental sciences. *May be taken a maximum of three times.*

#### 480 Seminar on the Environment (1)

Seminar and discussion of topics of current environmental interest. Student presentation required. Spring semester. *Prerequisite: senior or graduate standing.*

#### 481 Politics and the Environment (3)

A political analysis of the conflicting interests involved in implementing policies to protect the environment, develop alternative energy sources, and promote economic growth. On demand.

#### 482 Technology and the Environment (3)

Explores the complex relationships between technology and the environment that have existed since the Paleolithic Period. Special attention to the study of tools for extracting materials and energy from the environment and to the effect of these tools upon the landscape. On demand. *Prerequisite: Environmental Science 151 or equivalent with a grade of C or better.*

#### 483 Economics and the Environment (3)

An economic analysis of causes and effects of pollution; the role of economic policy in controlling pollution with special emphasis on water, air, and solid waste residuals; an evaluation of the alternative environmental controls. On demand. *Prerequisite: Environmental Science 151 or equivalent with a grade of C or better.*

#### 484 Values and the Environment (3)

An examination of the personal and social values at issue in the environmental problems of urban and nonurban regions. Attention to the emerging concern for

an environmental ethic. Fall semester alternate odd years. *Prerequisite: Environmental Science 150.*

#### 490 Environmental Science Senior Project (3)

A group project involving analysis and solution of an environmental problem; oral and written presentation of progress and final results required. Fall semester alternate even years. *Prerequisite: senior standing.*

#### 491r Environmental Science Internship (Specific Agency, etc.) (1-4)

A cooperative arrangement between the University and agencies, organizations, groups, and businesses involved with environmental problems. Designed to provide students with a learning, observing, and work experience through direct contact with individuals working on problems related to their field. Maximum credit: 9 hours. Every semester. *Prerequisite: junior or senior standing and consent of environmental studies department head.*

#### 495r Departmental Honors (2 hours per term, 4 hours for the two terms) Every semester. See "Departmental Honors," page 39.

#### 496r Environmental Field Camp (1-6)

An interdisciplinary field experience representing two or more of the following disciplines: archaeology, botany, zoology, geology, and sociology. The field experience will include data collection in meaningful scientific studies, mapping, photography, and use of taxonomic keys. On demand. *Prerequisite: introductory courses in the natural and behavioral sciences, at least junior level standing, and approval of instructors.*

#### 497r Research (1-4)

Every semester. *Prerequisites: approval of instructor and head of the department.*

#### 498r Individual Studies (1-4)

Every semester. *Prerequisites: approval of instructor and head of the department.*

#### 499r Group Studies (1-4)

On demand.

### CONSORTIUM COURSES

The University of Tennessee at Chattanooga maintains a formal affiliation arrangement with the Gulf Coast Research Laboratory (GCRL) in Ocean Springs, Mississippi. Through this arrangement, our students may take field courses in marine science at GCRL during the summer. Credits for these courses are awarded through the University of Southern Mississippi and will be accepted as transfer credit at The University of Tennessee at Chattanooga. The following is a list of courses taught at GCRL, their level (undergraduate or graduate), and the semester hours credit. Not all courses are offered each year.

Marine Science I: Oceanography (U) 5 hours.  
 Marine Science II: Marine Biology (U) 5 hours.  
 Coastal Vegetation (U/G) 3 hours.  
 Marine Phycology (U/G) 4 hours.  
 Salt Marsh Plant Ecology (U/G) 4 hours.  
 Coastal Marine Geology (U/G) 3 hours.  
 Marine Invertebrate Zoology (U/G) 6 hours.  
 Marine Ichthyology (U/G) 6 hours.  
 Marine Microbiology (U/G) 5 hours.  
 Comparative Histology of Marine Organisms (U/G) 6 hours.  
 Marine Fisheries Management (U/G) 4 hours.  
 Fauna and Faunistic Ecology of Tidal Marshes (U/G) 4 hours.  
 Early Life History of Marine Fishes (G) 4 hours.  
 Marine Ecology (U/G) 5 hours.  
 Parasites of Marine Animals (U/G) 6 hours.  
 Marine Aquaculture (U/G) 6 hours.  
 Coastal Ecology for Teachers (U/G) 4 hours.  
 Special Problems in Marine Science (U/G) 1 to 6 hours.  
 Special Topics in Marine Science (U/G) 1 to 6 hours.

*Students may obtain more information about the Gulf Coast Research Laboratory and admission to the summer program from the Biology/Environmental Science Head or by writing: Office of Student Services, Gulf Coast Research Laboratory, P. O. Box 7000, Ocean Springs, MS 39564-*

7000. Telephone (228) 872-4201 or (228) 875-2244, extension 201.

## Business Administration

See College of Business Administration, page 116.

# Chemistry

UC Foundation Professor Gail M. Meyer, Head

The program in Chemistry at UTC is designed to prepare students for careers in chemistry, biochemistry, medicine, dentistry and pharmacy. The chemistry curriculum provides programs leading to either the B.A. Chemistry degree or the B.S. Chemistry degree. The B.A. program emphasizes the liberal arts with specialization in chemistry. Students wishing to develop a broad background in chemistry while earning a minor in a related field should select the B.A. Chemistry degree. The B.S. program provides more extensive coursework in chemistry, physics and mathematics, and is recommended for students pursuing professional careers in chemistry or biochemistry. Within the B.S. Chemistry degree a student must select one of two concentrations: (1) Chemistry Concentration, or (2) Biochemistry Concentration. The B.S. Chemistry program is approved by the Committee on Professional Training of the American Chemical Society. The department also offers a minor in chemistry.

Preprofessional programs in dentistry, medical technology, medicine, cytotechnology, dental hygiene, pharmacy, and veterinary medicine are described in the Preprofessional Programs section of the catalog. See page 36.

## Chemistry (B.A.)

1144 - Chemistry; 1146 - Premedicine;  
1148 - Pre dentistry

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 151/152\* (4 hours)

**Statistics:** Mathematics 210 or 307 (3 hours)

**Natural Sciences:** Physics 103/183 and Physics 104/184 (8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language

**Completion of a minor** with a minimum 2.0 grade point average.

### Major and Related Courses

Mathematics 151/152<sup>†</sup>, 161/162; Physics 103/183<sup>†</sup>, 104/184<sup>†</sup>  
37 hours chemistry including 121/123 (or 125), 122/124, 286, 333, 341, 351/353, 352/354, 371, 386, 443, 486r, and electives to complete 37 hours in chemistry

2.0 average in all chemistry courses (excluding Chemistry 111and 211)

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

<sup>†</sup>Also satisfies general education requirement.

### Typical course of study in Chemistry (B.A.)

#### Freshman Year

*First Semester:* Chemistry 121/123; English 121; Mathematics 144\*; Behavioral and Social Sciences; Humanities and Fine Arts. *Second Semester:* Chemistry 122/124; English 122; Mathematics 145; Humanities and Fine Arts.

#### Sophomore Year

*First Semester:* Chemistry 286, 351/353, Mathematics 151/152; Foreign Language I. *Second Semester:* Chemistry 352/354; Mathematics 161/162; Foreign Language II, Cultures and Civilizations.

#### Junior year

*First Semester:* Chemistry 341, 386, Physics 103/183; Foreign Language III; Elective. *Second Semester:* Chemistry Elective; Physics 104/184; Mathematics 210 or 307; Foreign Language IV.

#### Senior year

*First Semester:* Chemistry 333, 371; Cultures and Civilizations; Behavioral and Social Sciences; Elective. *Second Semester:* Chemistry 443, 486r; Cultures and Civilizations; Electives.

**Total Hours: 120**

\*Students beginning in Mathematics 151/152 or higher should advance their mathematics sequence and select electives to bring their total hours to 120.

## Chemistry (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 151/152\* (4 hours)

**Statistics:** Mathematics 210 or 307 (3 hours)

**Natural Sciences:** Physics 103/183 and 104/184 or Physics 230/280 and 231/281\* (8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

### Major and Related Courses

Foreign Language: One year of a foreign language

Mathematics 151/152<sup>†</sup>, 161/162

Chemistry 121/123 (or 125), 122/124, 286, 333, 341, 351/353, 352/354, 371, 372, 386, 443, 466, 486r.

### Chemistry Concentrations:

**2144 - Chemistry; 2146 - Premedicine;**

**2148 - Pre dentistry**

Chemistry 434; Mathematics 212; Physics 103/183<sup>†</sup> and 104/184<sup>†</sup> or Physics 230/280<sup>†</sup> and 231/281<sup>†</sup>

One Chemistry elective from 342, 453 or 467

One Chemistry research course from 495r, 496r, or 497r (a second course from 342, 453, or 467 may be substituted.)

2.0 average in all chemistry courses (excluding Chemistry 111and 211).

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

<sup>†</sup>Also satisfies general education requirement.

### Typical course of study in Chemistry (B.S.)

#### Freshman Year

*First Semester:* Chemistry 121/123; English 121; Mathematics 144\*; Behavioral and Social Sciences; Humanities and Fine Arts. *Second Semester:* Chemistry 122/124; English 122; Mathematics 145; Humanities and Fine Arts.

**Sophomore Year**

First Semester: Chemistry 286, 341, 351/353; Mathematics 151/152. Second Semester: Chemistry 352/354; Mathematics 161/162; Physics 103/183; Behavioral and Social Sciences.

**Junior year**

First Semester: Chemistry 386, 371, 466; Foreign Language I; Physics 104/184. Second Semester: Chemistry 372, 497; Mathematics 210 or 307; Foreign Language II; Cultures and Civilizations

**Senior year**

First Semester: Chemistry 333, 486r; Chemistry elective with lab; Cultures and Civilizations; Elective. Second Semester: Chemistry 434, 443; Cultures and Civilizations; Elective.

**Total Hours: 120**

\*Students beginning in Mathematics 151/152 or higher should advance their mathematics sequence and select electives to bring their total hours to 128.

## Chemistry: Biochemistry Concentration

### 2244 - Chemistry; 2246 - Premedicine; 2248 - Pre dentistry

Chemistry 467; Physics 103/183 and 104/184 or 230/280<sup>†</sup> and 231/281<sup>†</sup> (200-level Physics recommended for prospective graduate students)  
Biology 121, 122, 325 and one course from Biology 311 or 428  
One Chemistry research course recommended from 495r, 496r or 497r

2.0 average in all chemistry courses (excluding Chemistry 111 and 211).

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\* Also satisfies requirement in the major.

<sup>†</sup> Also satisfies general education requirement.

**Typical course of study in Biochemistry (B.S.)****Freshman Year**

First Semester: Chemistry 121/123; Biology 121; English 121; Mathematics 145. Second Semester: Chemistry 122/124; Biology 122; English 122; Mathematics 151/152.

**Sophomore Year**

First Semester: Chemistry 341, 351/353, Physics 103/183<sup>2</sup>; Mathematics 161/162. Second Semester: Chemistry 286, 352/354; Physics 104/184; Biology 325; Elective.

**Junior year**

First Semester: Chemistry 371, 386, 466; Foreign Language I; Cultures and Civilizations; Second Semester: Chemistry 372; Behavioral and Social Sciences; Foreign Language II; Mathematics 210.

**Senior year**

First Semester: Chemistry 333; Biology 311 or 428; Behavioral and Social Sciences; Cultures and Civilizations; Humanities and Fine Arts. Second Semester: Chemistry 443, 467, 486r; Cultures and Civilizations; Humanities and Fine Arts.

**Total Hours: 120**

<sup>1</sup>Students beginning in Mathematics 151/152 or higher should advance their mathematics sequence and select electives to bring their total hours to 120.

<sup>2</sup>Physics 230/280 and 231/281 are recommended for prospective graduate students.

**4530 - CHEMISTRY MINOR**

Chemistry 121/123 (or 125), 122/124, 341, 351/353, 352/354, and one course selected from 342, 371, 443, or 466.  
Minimum 2.0 average in the minor.

**CHEMISTRY COURSES (CHEM)****111 Chemistry and the Environment (3)**

Examines chemical concepts and methods of investigation with applications to

the environment. Spring semester odd years. Credit may not apply toward a chemistry major.

**119 Light and Life (4)**

Examines the methods of investigation that lead to our understanding of light and its role in nature and human development. Lecture 3 hours, laboratory 2 hours. Prerequisite: Mathematics Placement, Level 20. May be registered as Biology 119 or Physics 119. Credit allowed in only one of the three courses.

**121 General Chemistry I (3)**

Surveys chemical principles involving structure, properties and reactions. Every semester. Lecture 3 hours Prerequisite: UTC Math Placement level 20 or Math 106 or equivalent. Chemistry 125 may be substituted for Chemistry 121 and 123 in meeting all requirements. Corequisite: Chemistry 123.

**122 General Chemistry II (3)**

Examines chemical concepts in inorganic, organic, analytical and physical chemistry. Every semester. Lecture 3 hours. Prerequisite: 121 or 125 with a minimum grade of C; UTC Math Placement 30 or Math 131 or 144 (Chemistry majors). Corequisite: Chemistry 124.

**123 General Chemistry I Laboratory (1)**

Laboratory experiments to support and enhance the topics covered in Chemistry 121. Every semester. Laboratory 3 hours. Prerequisite: UTC Math Placement Level 20 or Math 106 or equivalent. Corequisite: Chemistry 121.

**124 General Chemistry II Laboratory (1)**

Laboratory experiments to support and enhance the topics covered in Chemistry 122. Every semester. Laboratory 3 hours. Prerequisite Chemistry 123 with a minimum grade of C; UTC Math Placement Level 30 or Math 131 or 144 (Chemistry majors). Corequisite: Chemistry 122.

**125 Honors General Chemistry (4)**

Provides an advanced survey of chemical principles involving structure, properties, reactions, and organic chemistry. Laboratory work emphasizes advanced experimental procedures. Fall semester. Lecture 3 hours, laboratory 3 hours. Prerequisite: approval of instructor. Chemistry 125 may be substituted for Chemistry 121/123 in meeting all requirements.

**168 Survey of Organic and Biochemistry (3)**

A selection of chemistry principles relevant to health fields, including a survey of organic and biochemistry. Spring semester. Lecture 3 hours. Prerequisite: Chemistry 121/123 or 125 with minimum grade of C. Credit not allowed after Chemistry 466. Credit may not be applied toward a chemistry major.

**170 Survey of Organic and Biochemistry Laboratory (1)**

Laboratory experiments to support and enhance the topics covered in Chemistry 168. Spring semester. Laboratory 2 hours. Prerequisite: Chemistry 123 with minimum grade of C. Corequisite: Chemistry 168.

**199r Special Projects (1-4)**

Focuses on individual or group projects. On demand. Maximum credit 4 hours.

**211 Forensic Chemistry (3)**

Presents the application of chemical analysis to criminalistics including studies of physical evidence, microscopy, drug analysis, toxicology, arson investigation, serology, firearms, and documents. Fall semester odd years. Credit may not be applied toward a chemistry major.

**286 Scientific Communication (2)**

An introduction to the techniques of oral presentations including the use of current technology. Every semester. Classroom 2 hours. Prerequisite: Chemistry 122/124.

**333 Inorganic Chemistry (3)**

Concepts and models in inorganic chemistry with emphasis on atomic structure and bonding, molecular orbital theory, material science, and descriptive inorganic chemistry including biological and environmental applications. Fall semester. Lecture 3 hours. Prerequisites: Chemistry 352/354 with a minimum grade of C; Mathematics 161/162. Co- or prerequisite: Chemistry 341 and Physics 104/184 or 231/281.

**341 Quantitative Analysis (4)**

Examines the theory and practice of volumetric, electrochemical, and spectrophotometric analysis applied to the study of stoichiometry and equilibrium. Fall semester. *Lecture 3 hours, laboratory 3 hours. Prerequisite: 122/124.*

#### 342 Methods of Environmental Analysis (4)

Focuses on advanced theory and practice of analytical chemistry including instrumental approaches to separation and analysis. Spring semester, even years. *Lecture 3 hours, laboratory 3 hours. Prerequisite: 341, 351/353.*

#### 351 Organic Chemistry I (3)

Studies compounds of carbon with emphasis on structure, reactivity, mechanisms, and synthesis of organic molecules. Fall semester. *Lecture 3 hours. Prerequisite: 122 with minimum grade of C; Corequisite: 353.*

#### 352 Organic Chemistry II (3)

Continuation of Chemistry 351. Emphasis on functional group manipulation and synthesis. Spectroscopic methods of analysis with emphasis on structure elucidation included. Spring semester. *Lecture 3 hours. Prerequisite: Chemistry 351/353 with minimum grade of C; Corequisite: Chemistry 354.*

#### 353 Organic Chemistry I Laboratory (1)

Laboratory experiments to support and enhance the topics covered in Chemistry 351. Fall semester. *Laboratory 3 hours. Prerequisite: Chemistry 124; Corequisite: Chemistry 351.*

#### 354 Organic Chemistry II Laboratory (1)

Laboratory experiments to support and enhance topics covered in Chemistry 352. Spring semester. *Laboratory 3 hours. Prerequisite: Chemistry 353 with minimum grade of C; Corequisite: Chemistry 352.*

#### 371 Physical Chemistry I (4)

Examines thermodynamics, kinetics, and quantum mechanics with applications to physical and chemical properties of matter. Fall semester. *Lecture 3 hours, laboratory 3 hours. Prerequisites: Chemistry 341, 351/353; Mathematics 161/162. Co- or Prerequisite: Physics 104/184 or 231/281.*

#### 372 Physical Chemistry II (4)

Continuation of 371 with primary emphasis on kinetics, quantum mechanics, and spectroscopy. Spring semester. *Lecture 3 hours, laboratory 3 hours. Prerequisite: Chemistry 371.*

#### 386 Chemical Literature (1)

Surveys the primary, secondary, and tertiary sources of chemical information with weekly individual assignments in the use of these sources. Fall semester. *Prerequisite: 16 semester hours of chemistry.*

#### 390r Cooperative Work Experience (1)

Cooperative chemistry work experience is part of the Cooperative Education Program. Students participate in off-campus laboratory work in industry or government. Written and oral reports required. *Prerequisite: Selection by Cooperative Education Office. Maximum credit 4 hours. Credit may not be applied towards a chemistry major; but for B.A. degree will count against the 42-hour limit permitted in any one department. Course graded on a satisfactory/no credit basis.*

#### 426 Chemistry in Industry (2)

Surveys the chemical industry including economic aspects, activities of chemists, and case studies in the solving of industrial problems. Spring semester odd years. *Prerequisite: 24 semester hours of chemistry.*

#### 434 Advanced Inorganic Chemistry (4)

Advanced theories of bonding and structure in inorganic chemistry with emphasis on ligand field theory, bioinorganic chemistry, and organometallic chemistry. Spring semester. *Lecture 3 hours, Laboratory 3 hours. Prerequisites: Chemistry 333, 371 with grades of C or better; Mathematics 212; Physics 231/281.*

#### 443 Instrumental Analysis (4)

Examines the theory and use of infrared and ultraviolet spectroscopy, nuclear magnetic resonance, atomic absorption, gas chromatography, thermal analysis, electrochemical analysis, and other instrumental methods of characterizing chemical structure. Spring semester. *Lecture 3 hours, laboratory 3 hours. Prerequisites: 341 and 352/354 with minimum grades of C; Physics 104/184 or 231/281.*

#### 453 Advanced Organic Chemistry (4)

Studies advanced concepts of organic chemistry upon which modern organic

chemistry is developed. Kinetics, thermodynamics, multistep synthesis, molecular orbital concepts and orbital symmetry, and molecular structure determination by modern physical methods are emphasized. Fall semester even years. *Lecture 3 hours, laboratory 3 hours. Prerequisite: Chemistry 352 with minimum grade of C and Chemistry 354.*

#### 466 Biochemistry (3)

Surveys the chemical aspects of protein and enzyme function, bioenergetics, metabolism, photosynthesis, nucleic acid function, and protein biosynthesis. Fall semester. *Prerequisite: 352 with a grade of C or better.*

#### 467 Proteins and Nucleic Acids (4)

Designed for students interested in advanced studies in biochemistry, molecular biology, and related medical sciences. Lectures will extensively cover material such as biochemical reactions, amino acid and peptide metabolism, protein function, nucleic acid base metabolism, nucleic acid function, and enzyme kinetics. The laboratory will be an introduction to modern biochemical techniques. Spring semester. *Lecture 3 hours, laboratory 3 hours. Prerequisites: Biology 325, Chemistry 371 and 466 with grades of C or better in each course.*

#### 475 Polymer Chemistry (2)

Focuses on the chemistry of synthetic polymers including mechanisms of polymerization and the relation of properties to structure. Spring semester even years. *Prerequisites: 352 and 371 or equivalent knowledge.*

#### 486r Seminar (1)

This participation seminar is based on student papers, invited speakers, and other activities. Every semester. *Prerequisites: Chemistry 286 and 24 semester hours of chemistry. Maximum credit 2 hours.*

#### 495r Departmental Honors (2 hours per term, 4 hours for the two terms)

The Chemistry Department strongly recommends that all senior departmental honors projects be preceded by a ten-week summer research project or by two semesters of departmental research in Chemistry 497. Between 5 and 10 clock hours of research per week are expected for 495r credit. Every semester. *Prerequisite: approval of Chemistry Department. See "Departmental Honors," page 39.*

#### 496r Industrial Research (2)

Focuses on group participation in a research project sponsored jointly by the Chemistry Department and a local industry. Written report required. On demand. *Laboratory 4 hours. Prerequisite: 20 semester hours of chemistry.*

#### 497r Research (2)

Laboratory research under staff supervision. Oral summary or written report of results required each semester of credit. Students should confer with instructor prior to registration. Every semester. *Laboratory 6 hours.*

#### 498r Individual Studies (1-4)

Involves individual or group projects. Credit may be earned through University, governmental, or industrial laboratory experience approved by the department. Written report and seminar presentation required. Every semester. *Maximum credit 4 hours.*

#### 499r Group Studies (1-4)

Examines a special topic of a selected area of chemistry as specified in the schedule of classes. Students should confer with the instructor prior to registration. On demand.

## Classical Civilization

See Foreign Languages and Literatures, page 70.

## Communication

*Professor Kittrell Rushing, Head*

The Accrediting Council on Education in Journalism and Mass Communications (ACEJMC) accredits the UTC Department of Communication. The department offers a Bachelor of Arts degree requiring a combination of broad liberal learning and spe-



cialized study in communication. In addition to meeting the general education requirements, the communication major must complete an approved minor. Majors must complete an internship of no less than 150 hours of on-the-job training.

## 1170 - Communication (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours) May include for communication majors, Communication 320, as one of the two courses.

**Foreign Language:** Through second college year in one foreign language

Completion of a minor with a minimum 2.0 grade point average.

### Major and Related Courses

Completion of 33 hours of communication courses including 101, 230, 231, 320, 420, 451 and 485 or 480, and other communication courses as electives for the total of 33 hours.

One approved computer literacy course.

Communication majors must take a minimum of 80 semester hours in courses outside the major, with no fewer than 65 semester hours from the liberal arts and sciences.

A communications major may complete a maximum of 30 credit hours in the College of Business Administration. This limit does not apply to students seeking the double major or degree in business and communication.

2.0 average in communication courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## COMMUNICATION MINORS

The Department of Communication offers two minors: a professional minor for students wishing to focus on career skill development related to journalism and mass communication; and a media studies minor for students wishing to focus on the impact of media on American society and the cultural meaning of mass communication.

### 4536 - Professional Practice

A total of 18 hours, including Communication 101, 230, and 231. Nine hours must be at the 300 level or above and selected from the following professional courses: Communication 333, 335, 340, 345, 350, 361, 363, 400, 410, 445, 461, 465, 470.

Minimum 2.0 average in the minor.

### 4537 - Media Studies

A total of 18 hours, including at least nine hours at the 300 level or higher. Courses from which hours may be selected include: Communication 101, 271, 320, 324, 400, 410, 420, 451 and 470.

Minimum 2.0 average in the minor.

## COMMUNICATION COURSES (COMM)

### 101 Introduction to Mass Communication (3)

Structure and functions of the mass communication media and their adjuncts;

creation, distribution, and exhibition of mass media content; legal and ethical considerations. Every semester. *Lecture 3 hours.*

### 130 Basic Computer Skills for Communication Majors (1)

Introduction to basic computer technology for mass communication. Basic elements of word processing, electronic mail, web page building and maintenance, and use of the World-Wide-Web for mass communication. Every semester. *Laboratory 2 hours*

### 199r Special Projects (1-3)

Individual or group studies. Every semester. *Laboratory 1 to 3 hours*

### 230 Media Writing I (3)

Introduction to language skills and factual writing style for the mass media. News writing, information gathering and interviewing. Every semester. *Laboratory 4 hours.* *Prerequisites: English 121 with grade of C or better, keyboard proficiency of 30 wpm.*

### 231 Media Writing II (3)

Researching, structuring, writing, and evaluating news stories, and practice in writing for public relations and advertising. Theoretical perspectives of news and other media information, comparisons among the media. Every semester. *Laboratory 4 hours. Prerequisites: English 122 and Communication 230 with grades of C or better, keyboard proficiency of 36 wpm, or approval of the instructor.*

### 271 Introduction to Public Relations (3)

Fundamentals of establishing and maintaining effective relations with organizational publics. Introduction to publicity methods and managing the public relations function. Case study approach. Every semester. *Lecture 3 hours.*

### 320 Mass Communication Perspectives (3)

History and development of mass media and mass media issues in American society. Cultural, technological, economic and societal consequences of the media. Every semester. *Prerequisite: 101 Lecture 3 hours.*

### 324 Race, Gender and the Media (3)

Examines the roles of ethnic minorities and women as members and consumers of the media. Spring semester. *Lecture 3 hours. Prerequisite: junior standing or approval of instructor. May be registered as WSTU 324. Credit not allowed in both Communication and Women's Studies 324.*

### 333 Persuasive Writing (3)

Preparation of persuasive copy for print and electronic media. Creative and conceptual aspects emphasized. Fall semester. *Prerequisite: 231. Laboratory 4 hours.*

### 335 Publication Editing and Design (3)

Elements of publication design, with special attention to typography, graphics, and layout. Every semester. *Prerequisite: 230. Laboratory 4 hours.*

### 337 World-Wide Web Production (3)

Elementary World-Wide Web production techniques. The focus is on web page building and the use of the World-Wide-Web as a medium of mass communication. Spring semester. *Laboratory 4 hours. Prerequisites: English 121, word processing proficiency, or approval of instructor.*

### 340 Audio Production and Presentation (3)

Producing and presenting content in radio and non-broadcast audio media, using both studio and portable facilities. Studio, control room, and field production procedures, recording and editing, music and sound effects. Every semester. *Lecture 1 hour, laboratory 3 hours.*

### 345 Video I (3)

Writing and producing news, commercials, and public service and promotional announcements. Fall semester. *Prerequisite: 231. Lecture 2 hours, laboratory 3 hours.*

### 350 Television News Production (3)

Principles and skills of producing television newscasts. Includes the production of two half-hour newscasts. Fall semester. *Prerequisites: 231. Laboratory 3 hours.*

### 361 Advanced Reporting (3)

Reporting and writing news from city and county sources, with emphasis on researching public documents. Explorations and discussions of news and its rela-

tionship to society. On demand. *Prerequisite: 231. Laboratory 4 hours.*

### 363 Feature Writing (3)

Nonfiction writing for newspapers, magazines and specialized publications. Spring semester. *Prerequisite: 231 or approval of the instructor. Laboratory 4 hours.*

### 366 Creative Editing (3)

Principles and basic skills in newspaper, magazine, electronic and specialized publication copy editing. Fall semester. *Laboratory 4 hours. Prerequisite: 231.*

### 400r Special Topics (3)

Specialized study of mass media designed to meet interests of students and faculty. On demand. *Approval of instructor or head of the department.*

### 410 Public Communication and Environmental Issues (3)

Seminar concerning environmental policy, information, and education, environmental reporting, and environmental public relations. Also discusses risk communication and the multiracial environmental justice movement. On demand. *Prerequisite: Junior or senior standing. Completion of natural science/lab requirements, or approval of instructor.*

### 420 Senior Seminar (3)

Current issues in mass media and completion of a research project. Every semester. *Prerequisite: 320.*

### 445 Video II (3)

Television field production: scripting, shooting and editing. Spring semester. *Prerequisite: 345. Lecture 2 hours, laboratory 3 hours.*

### 451 Mass Communication Law and Ethics (3)

United States legal system, elements of constitutional law, the law of mass communication. Personal and professional ethics as they apply to communications disciplines. Every semester. *Lecture 3 hours.*

### 461 Newspaper and Newsletter Editing and Design (3)

Principles and practices of editing and evaluating news copy, writing headlines and captions, newspaper and newsletter layout and design practices, electronic editing, and newspaper and newsletter production processes. Every fourth semester. *Prerequisite: 231. Laboratory 4 hours.*

### 465 The Advertising Campaign (3)

Principles of campaign research, planning, implementation, and presentation applied to an account. On demand. *Prerequisite: 333. Lecture 1 hour, laboratory 3 hours.*

### 470 The Public Relations Campaign (3)

Principles of campaign research, planning, implementation, and evaluation, and their application. Spring semester. *Prerequisite: 271 and 333. Lecture 1 hour, laboratory 3 hours.*

### 480 Directed Project (3)

Guided project designed to demonstrate proficiency at professional level in a specific area. Every semester. *Prerequisites: senior standing and approval of the department in the semester preceding enrollment.*

### 485 Individual Internship (3)

Working experience in a professional situation. Every semester. *Prerequisites: senior standing and approval of the department in the semester preceding enrollment.*

### 495r Departmental Honors (1- 3 hours per, 4 hours for the two).

Every semester. See "Departmental Honors," page 39.

### 497r Research (1- 3 hours)

Every semester. *Prerequisite: approval of the department head.*

### 498r Individual Studies (1- 3 hours)

Every semester. *Prerequisite: approval of the department head.*

### 499r Group Studies (1- 3 hours)

On demand.

## Computer Science

See College of Engineering and Computer Science, page 138.

## Education

See College of Health, Education and Professional Studies, page 142.

## Engineering

See College of Engineering and Computer Science, page 126.

# Criminal Justice

*Professor Helen Eigenberg, Head*

The Criminal Justice program promotes an understanding of the justice systems on the undergraduate and graduate levels to both majors and nonmajors. Emphasis is placed on intellectual, experiential, and problem solving activities. Students acquire conceptual knowledge and learn basic skills, i.e., interpersonal, computer, legal research, for entry level employment in criminal justice systems and social service agencies. At the graduate level, students engage in rigorous study in preparation for managerial and leadership roles throughout the justice system.

## 2176 - Criminal Justice (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours).

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Sociology 151\* and another approved behavioral or social science course. The second social science course may not be in sociology and must be taken outside the major. (6 hours)

### Major and Related Courses

36 hours including: Criminal Justice 110, 170, 211, 303 or 317 or 425, 310, 311, 312, 325, 375, 410, 485; and 3 hours from Human Services 405 or Legal Assistant Studies 300

15 hours Criminal Justice electives with at least 9 of the 15 elective hours at the 300/400 level

Psychology 101† and Sociology 151† (These courses may also be used to satisfy general education requirements.)

A minimum grade of C required in core and concentration course work, and a 2.0 overall GPA in the major is required.

No more than 3 hours of Criminal Justice 470 or 471 may be applied toward the 15 hours of Criminal Justice electives.

Electives to complete 120 hours.<sup>1</sup>

Minimum of 39 hours of 300-400 levels courses.

See page 35 for additional requirements.

<sup>1</sup>Electives may be taken from any academic program.

\*Also satisfies requirement in the major.

†Also satisfies general education requirement.

## 4541 - CRIMINAL JUSTICE MINOR

18 hours including Criminal Justice 110, 170 and 12 hours of criminal justice elec-

tives with at least 9 hours at the 300/400 level (excluding 470/471, 485, 495, 497, 498).

Minimum 2.0 average in the minor.

## CRIMINAL JUSTICE COURSES (CRMJ)

### 110 Introduction to the Criminal Justice System (3)

An overview of the criminal justice system as it currently operates in its three major components: police, courts, corrections. A broad-based interdisciplinary perspective is employed to introduce the student to theories of crime and the process of criminal justice in modern America.

### 170 Introduction to Criminal Law (3)

An overview of both substantive and procedural law related to the definitions, investigations, processing and punishment of crimes, providing students with an overall understanding of the articulation between law and the criminal justice system. It also reviews the historical foundations of criminal law, elements of crime, purposes and functions of law, limits of the law, and the function of law in American society.

### 199r Special Projects (1-4)

Individual or group projects. On demand. Maximum credit 4 hours.

### 201 Violence in America (3)

An historical investigation into violence in America and the evolutionary response of criminal justice agencies. Every semester.

### 211 Information Systems in Criminal and Juvenile Justice (3)

An introduction to information management tools and processes of accountability as they relate to the two systems of justice. Fall semester.

### 250 Media and the Criminal Justice System (3)

Critical exploration of media portrayals of crime and criminal justice. News and entertainment genres are examined. Connections between crime, culture, politics, society and individual behavior, and the mass media receive special attention.

### 295 Violence Against Women (3)

Examines a variety of forms of violence against women in the United States including domestic violence, sexual assault, sexual harassment and pornography. Explores how violence against women has been minimized in society and how the criminal justice system has rarely developed effective ways to address these types of crimes. *May be registered as WSTU 295. Credit not allowed in both Criminal Justice and Women's Studies 295.*

### 303 Comparative Criminal and Juvenile Justice Systems (3)

An examination of these two systems of justice as they function in other countries. Every semester. *Prerequisite: Criminal Justice 110 or completion of general education social science requirement or approval of instructor.*

### 310 Law Enforcement in Criminal and Juvenile Justice (3)

Examines the historical and philosophical evolution of the police and the role of police in society. Discusses police functions, subculture, community relations and decision making. Explores issues such as police corruption and deviance and attempts to control police behavior. *Prerequisite: Criminal Justice 110 or approval of instructor.*

### 311 Criminal Justice Research Methodology (3)

Examination of the contemporary philosophy and techniques of research as applied in the criminal justice field. *Prerequisite: Criminal Justice 110.*

### 312 Correctional Perspectives in Criminal and Juvenile Justice (3)

Philosophical and historical evolution of corrections in the U.S. Emphasis on punishment and rehabilitative rationales, institutional programs and procedures, inmate social structures, and contemporary issues. *Prerequisite: Criminal Justice 110 or approval of instructor.*

### 317 Minorities and Criminal Justice (3)

This course involves a critical analysis of multicultural, intergroup relations in the United States. It is intended to help students gain increased understanding of how race, ethnicity, gender, social status, age, occupation, etc., are related to the myriad of problems confronting social relations and the workings of the criminal justice system. On demand. *Prerequisite: Criminal Justice 110 or completion of general education social science requirement or approval of instructor.*

### 325 Law and Justice System (3)

An overview of the role of the actors in the American courtroom, the interaction of these actors and the effect of social forces on their behavior. Includes prosecutor, plaintiff and defense lawyers, judges, juries, eye witnesses, expert witnesses, and court staff. *Prerequisite: Criminal Justice 110 or approval of instructor.*

### 330 Probation, Parole and Community Corrections (3)

Examines the history, law, administration and current status of community correctional programs, including diversion, probation, parole, halfway houses, volunteer programs and other community programs for juvenile and adult offenders. *Prerequisite: Criminal Justice 110 or approval of instructor.*

### 355 Public and Private Security (3)

The organization of security systems in public and private agencies and institutions. An in-depth analysis of the historical perspectives, current status components, and opportunity in private security. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor.*

### 370 Drugs: The Law and the Community (3)

Study of the drug problem, related law, and treatment of alternatives. On demand. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor.*

### 375 Juvenile Justice (3)

A study of historical, philosophical, and legal influences defining the juvenile justice system. Students will examine the structure of the juvenile court, choices for intervention, methods for measuring crime, and special topics associated with juvenile justice. *Prerequisite: Criminal Justice 110 or completion of general education social science requirement or approval of instructor.*

### 390 Police Procedure and Criminal Investigation (3)

A study of the laws on arrest, use of force, search and seizure, interrogation of suspects, obtaining confessions, and criminal identifications. Includes investigative techniques associated with collection and preservation of physical evidence as well as interrogation and preparation of formal statements of witnesses and suspects. *Prerequisites: Criminal Justice 110 and 310.*

### 400 Constitutional Law (3)

An examination of the leading constitutional principles pertaining to modern criminal procedure. Fall semester. *Prerequisites: Criminal Justice 110 and 170, or other law related course, or approval of instructor.*

### 401 Victimology (3)

An examination of the multifaceted problem of criminal victimization. Focuses on defining victimization, the incidents of victimization, social characteristics of victims, treatment of victims in the criminal justice system, and efforts designed to alleviate the consequences of victimization. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor.*

### 402 Organized Crime (3)

The effect of organized crime on the community, the government, legal systems, and the individual; and methods of combating organized crime. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor.*

### 404 Police Administration and Management Issues (3)

An in-depth analysis of critical issues in police leadership, management, and operations with an emphasis on labor-management relations, discrimination, civil liability, risk management, and police review systems. *Prerequisites: Criminal Justice 110 and 310.*

### 406 Juvenile Law (3)

Statutory and case analysis of judicial decisions, substantive juvenile law and procedures significant to practices of various agencies in juvenile justice. Spring semester. *Prerequisites: Criminal Justice 110 and 170 or other law related course, or approval of instructor.*

### 410 Theories of Criminal and Delinquent Behavior (3)

An analysis of theory and research on epidemiology and etiology of crime. Every semester. *Prerequisites: Criminal Justice 110 and 170.*

### 412 Correctional Administration and Legal Rights of Inmates (3)

The study of modern correctional organizations and administrative strategies. Special emphasis is placed on current legal issues involving both staff and client/offenders. *Prerequisites: Criminal Justice 110 and 312.*

#### 414 Terrorism (3)

A survey of modern domestic and international terrorism. Examines the structure and dynamics of terrorist groups, types of terrorist violence, and justification of violence. Looks at criminal justice and nonprofit, human services policies and responses to this particular type of disaster. *Prerequisites: Criminal Justice 110 or Human Services 202 or completion of social science general education requirement or approval of instructor. May also be registered as Human Services 414. Credit not allowed in both Criminal Justice and Human Services 414.*

#### 415 White Collar and Corporate Crime (3)

Examination of the relative harm done to society as a result of white collar and corporate crime. Review of causes, legislation, regulatory agencies and possible forms of intervention. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor.*

#### 425 Gender, Crime and Criminal Justice (3)

This course is intended to provide an overview of women's involvement in the criminal justice system as offenders, victims and professionals. Considerable attention will be given to women as victims of crime, the social system and the criminal justice process. On demand. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor. May be registered as WSTU 425. Credit not allowed in both Criminal Justice and Women's Studies 425.*

#### 430 Philosophical and Ethical Issues in Criminal Justice (3)

An investigation into the implications for criminal justice theory and practice of selected philosophical positions and perspectives. On demand. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor.*

#### 434 Gangs and the Criminal Justice System (3)

This course will provide an overview into the characteristics and mentality of gang members. Students will learn how to recognize gangsterism, and understand the gangster's mentality and influence in America today. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor.*

#### 460 Dispute Resolution (3)

Alternatives to the courts for conflict resolution, including negotiation, mediation and arbitration. Discussion of legal issues, advantages and limitations of the alternatives. Laboratory exercises in applying these methods. On demand. *Prerequisite: Completion of general education behavioral and social science requirements.*

#### 465 Crisis Intervention (3)

Study of the theoretical bases for accurately assessing crisis situations and a guided practicum in techniques of crisis intervention.

#### 470, 471 Internship in Criminal or Juvenile Justice (3,6)

Supervised internship in a criminal justice agency. Admission to 470 or 471 requires written application filed with the internship coordinator no later than three months prior to the semester in which the student plans to enroll in Criminal Justice 470 or 471; personal interview with the internship coordinator; and a 2.00 grade point average, both overall and in criminal justice. Every semester. *Prerequisite: criminal justice major, junior standing, and approval of instructor. Courses may be taken concurrently or consecutively. Graded satisfactory/no credit.*

#### 480 Virtual Explorations in Community Problem Solving (3)

Uses simulation to explore various approaches to problem solving and community collaboration. Focuses on skill areas of system thinking, conflict management, decision making and leadership. Important features are the interdisciplinary focus and multiple perspectives brought by students and faculty, and the use of the web to support learning objectives. *Prerequisite: junior or senior standing in the major.*

#### 485 Criminal Justice Senior Seminar (3)

Capstone course. Students will plan, design, and carry out a research project on a criminal or juvenile justice topic. Final projects will be grounded in relevant literature and will emphasize the integration of knowledge acquired in previous courses.

Final papers which report the results for the study will be presented in a formal research seminar. For Criminal Justice majors only. *Prerequisites: Criminal Justice 110, 211, 311, and senior standing.*

#### 495r Departmental Honors

(1-3 hours per term, 4 hours for the two terms)

Every semester. See "Departmental Honors," page 39.

#### 497r Research (1-4)

Every semester.

#### 498r Individual Studies (1-4)

Every semester.

#### 499r Group Studies (1-4)

On demand.

## Legal Assistant Studies

Assistant Professor Karen McGuffee, Coordinator

The Legal Assistant Studies Program is a specialized program of study preparing students for employment in law-related occupations in one of the fastest growing professions in the country. The legal assistant is trained work under the general supervision of an attorney, and handles tasks consistent with the legal assistant's professional stature. In the performance of these duties, the legal assistant, often as a part of a legal team, works to provide increased efficiency in the delivery of legal services to the client. In carrying out these activities, legal assistants are employed in a variety of settings including: law firms, government, courts, corporations, non-profit organizations, banks, financial institutions, educational institutions, insurance companies, hospitals, and other health care facilities.

The program also welcomes students who hold a two-year degree or who have had some legal and/or college courses. Students in the program must complete the University General Education requirements or transfer the equivalent and 51 hours of Legal Assistant Studies course work and electives to total a minimum of 120 hours.

#### Continuation and Graduation Standards:

In view of the nature of legal assistance and the fact that individual rights may be affected by individuals providing legal assistance, the following standards will be applied by the Legal Assistant Studies faculty:

1. To progress in Legal Assistant Studies, students are required to:
  - a) maintain a 2.5 (4.0 = A) grade point average in all legal assistant studies courses, and;
  - b) maintain an active liability insurance policy for the legal assistant practicum.
2. If in the judgment of the faculty there is a reason to question the academic, emotional, ethical, or professional fitness of a student, the faculty have the right to make recommendations regarding continuation in the program.
3. Students who fail legal assistant studies courses may not be allowed to progress in the program. Students may only repeat a Legal Assistant Studies course(s) one time.

#### Transfer Students

Transfer students majoring in Legal Assistant Studies must take a

minimum of 15 hours from approved Legal Assistant Studies courses at The University of Tennessee at Chattanooga.

## Legal Assistant Studies (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** 2 approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

### Major and Related Courses

Legal Assistant Studies Core Courses (27 hours) including LAS 101, 210, 235, 360, 390, 435, 470, 471  
Computer Science 110

### Completion of one of the following concentrations:

#### 2430 - Legal Assistant Studies

12 hours from Legal Assistant Studies 199r, 220, 225, 230, 240, 245, 250, 300, 350, 400, 410, 420, 425, 497r, 498r, 499 with at least 6 hours at the 300-400 level; and

12 hours from the following with at least 6 hours at the 300-400 level and no more than six hours from any one discipline: Political Science 221, 321, 322, 323, 421; Criminal Justice 325, 400, 406, 430, 460; Business Accounting 201, 202, 307, 335, 336; Finance 372; English 277; Environmental Sciences 410; Philosophy 425 .

2.0 average overall, 2.0 UTC average and 2.5 average in Legal Assistant Studies courses.

Minimum of 15 hours LAS courses at UTC.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

#### 2435 - Legal Assistant Studies: Social Sciences

One course from Human Services 205<sup>†</sup>, Psychology 201/204<sup>†</sup> or Sociology 250<sup>†</sup>

One course from Sociology 314 or Criminal Justice 311;

Psychology 401 and 425;

Criminal Justice 325;

Business Accounting 201;

Psychology 202;

Six (6) hours from Legal Assistant Studies 220, 225, 230, 240, 245, 250, 300, 350, 400, 410, 420, and 425

2.0 average overall, 2.0 UTC average and 2.5 average in Legal Assistant Studies courses.

Minimum of 15 hours LAS courses at UTC.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

<sup>†</sup>Also satisfies general education requirement.

## LEGAL ASSISTANT STUDIES MINOR

18 hours including Legal Assistant Studies 101 and 210, and 12 hours of legal assistant studies electives (excluding LAS 470, 480, 497, and 498). At least

nine (9) of the 12 hours must be at the 300-400 level.

Minimum 2.0 average required in all courses attempted for the minor.

## LEGAL ASSISTANT STUDIES COURSES (LAS)

### 001 Legal Assistant Professional Experience (0)

Registered course for no credit to acknowledge employment as a full time legal assistant for at least one year in the past five years.

### 101 Law and The Legal Assistant (3)

Introduction to the study of law and the legal system the legal assistant in the legal system; an overview of the skills of the legal assistant including legal interviewing, investigating and professional ethics. Fall semester.

### 199r Special Projects (1-4)

Individual or group projects. Every semester. *Prerequisites: approval of instructor.*

### 210 Legal Research and Writing (3)

Introduction to primary and secondary legal sources including federal and state court reports; legal digests and Shepard's annotated law reports; federal administrative law; legal periodicals with indices; treatises and restatements; and research aids. Fall semester.

### 220 Real Property Law (3)

Review of substantive law relating to real estate transactions. On demand.

### 225 Commercial Law (3)

Introduction to the execution, validity and enforcement of contracts, mortgages, pledge assignments and other security devices. Overview of federal and state law regulating consumer credit and collection procedures. On demand.

### 230 Estate and Trust Law (3)

Introduction of Tennessee substantive law of successions and dominions, including wills and estate administration. On demand.

### 235 Litigation I (3)

Introduction and analysis of the litigation process in federal and state courts. Lectures are supplemented with drafting practice. Fall semester.

### 240 Business Organizations (3)

Analysis of sole proprietorship, partnerships and corporations from a legal perspective. On demand.

### 245 Family Law (3)

Review of substantive law relating to marriage, children and property. On demand.

### 250 Personal Injury Practice (3)

An examination of tort, worker's compensation and insurance law as it relates to personal injury. On demand. *Prerequisite: LAS 210.*

### 300 Interviewing and Investigation (3)

An in-depth study of principles, methods and investigative techniques utilized to locate, gather, document and disseminate information The emphasis will be on developing interviewing and investigating skills intended to prepare the legal assistant to communicate effectively. On demand.

### 350 Law of Evidence (3)

Introduction to the law of evidence in Federal and State (Tennessee) Courts including the purpose and construction; burden of proof; admissibility and presumptions; relevancy; privileges and hearsay. On demand. *Prerequisite: LAS 235.*

### 360 Law Office Management and Computer Applications (3)

A study of the techniques and approaches for the efficient operation of a law office through the utilization of computer software programs. Fall semester. *Prerequisites: LAS 101 and Computer Science 110.*

### 390 Advanced Legal Research and Writing (3)

Utilization of traditional and computerized legal research methods in written assignments. Emphasis is on the analysis of fact situations, methods of effective research and use of legal materials in working practical problems; examination of basic and advanced search techniques using the major legal databases Lexis and Westlaw. Spring semester. *Prerequisites: LAS 210 and Computer Science 110.*

**400 Intellectual Property Law (3)**

The law of trademarks, copyrights, patents, and trade secrets including the search, selection, registration and transfer process. United States and International intellectual property laws discussed. On demand. *Prerequisites:* LAS 101 and 225 or approval of instructor.

**410 Employment Law (3)**

A study of employer/employee law in the United States discussing the National Labor Relations Act, the Occupational Safety and Health Act, unfair labor practices, unions, strikes, discrimination, sexual harassment, and employee privacy. On demand. *Prerequisites:* LAS 101 and 235 or approval of instructor.

**420 Legal Issues in Health Care (3)**

Study of the laws applicable to health care including access to health care services, the organization of health care, medical malpractice, and current issues in the medical field. On demand. *Prerequisites:* LAS 101 and 235 or approval of instructor.

**425 Legal Aspects of Non-Profit Management (3)**

See Human Service Management 425.

**435 Litigation II (3)**

Detailed analysis and practice of pretrial discovery, pretrial motions, evidence, trial preparation, assistance at trial motions and post-trial motions. Spring semester. *Prerequisite:* LAS 235.

**470 Legal Assistant Internship (3-6)**

Internship to give the student experience in a selected area of legal specialization under the supervision of an attorney. Students with credit for LAS 001 may substitute 2 legal specialty courses for these hours. Students who have completed a prior legal assistant internship for credit hours may substitute 1 legal specialty course for 3 hours of LAS 470. Every semester. *Prerequisite:* senior standing or approval of coordinator.

**471 Legal Ethics and Professionalism (3)**

An integrative seminar emphasizing ethical and related issues common to legal assistant theory practice and procedures. Spring semester. *Prerequisite:* senior standing or approval of coordinator.

**480 Virtual Explorations in Community Problem Solving (3)**

Uses simulation to explore various approaches to problem solving and community collaboration. Focuses on skill areas of system thinking, conflict management, decision making and leadership. Important features are the interdisciplinary focus and multiple perspectives brought by students and faculty, and the use of the web to support learning objectives.

**495r Departmental Honors**

(1-3 hours per term, 4 hours for the two terms)

Every semester. See "Departmental Honors," page 39.

**497r Independent Research (1-4)**

Every semester.

**498r Independent Studies (1-4)**

Every semester.

**499r Special Topics (1-4)**

On demand.

# Economics

Professor Ziad Keilany, *Head*

The economics curriculum is designed to prepare students for a successful career in different sectors of the economy. This is accomplished by offering a B.A. as well as B.S. in economics. The B.A. degree provides flexibility in course offerings and requires study of a foreign language. The B.S. degree, on the other hand, stresses mathematics and analysis.

## 1204 - Economics (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** Economics 201 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language.

**Completion of a minor** with a minimum of 2.0 grade point average.

**Major and Related Courses**

18 hours in economics including 101, 102, 201, 324, 325, and 453

15 hours from the following: Economics 301, 306, 317, 404, 415 or 416 (not both), 417, 425, 426, 429, 430, 444, 450, 452, 455, 460, 465, 470, 495r, 497r, 498r, 499r

English 277 or 279

Computer Science 110

2.0 average in all economics courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

An economics major may complete a maximum of 30 credit hours in the College of Business Administration. This limit does not apply to students seeking the double major or degree in business and economics.

See page 35 for additional requirements

## 2204 - Economics (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 131 (3 hours)

**Statistics:** Economics 201 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Major and Related Courses**

Economics 201 and 202, Mathematics 131 and 136

15 hours core courses including Economics 101, 102, 324, 325, 453

18 hours from the following: Economics 301, 306, 317, 404, 415 or 416 (not both), 417, 425, 426, 429, 430, 444,450, 452, 455, 460, 465, 470, 495r, 497r, 498r, 499r; Accounting 201; Finance 302 (BACC 202 is prerequisite) Other courses may be substituted with approval of department.

2.0 average in all economics courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

An economics major may complete a maximum of 30 credit hours in the School of Business Administration. This limit does not apply to students seeking the double major or degree in business and economics.

See page 35 for additional requirements

## 4450 - ECONOMICS MINOR

A student may obtain a minor in economics by taking Economics 101 and 102 plus 12 hours from the following courses: ECON 202 and/or any 300 or 400 level economics courses (minimum of 18 hours).

Minimum 2.0 average in the minor.

### ECONOMICS COURSES (ECON)

#### 101 Principles of Economics: Macroeconomics (3)

A study of national income and its determination, money and banking, economic fluctuations, fiscal and monetary policy, economic growth, and international economics. An introduction to the study of human behavior and the human condition in the context of macroeconomic forces. Every semester. Economics 101 and Economics 102 can be taken in either order.

#### 102 Principles of Economics: Microeconomics (3)

A study of the market system, the price system, forms of business organization, government and business, labor and distribution. An introduction to the study of human behavior and the human condition in the context of microeconomic forces. Every semester. Economics 101 and Economics 102 can be taken in either order.

#### 199r Special Projects (1-3)

Individual and group projects. On demand. *Maximum credit 3 hours.*

#### 201 Statistics for Economics I (3)

Basic concepts of data collection and presentation, descriptive and inferential statistics, probability, sampling distributions, estimation and hypothesis testing with emphasis of economic data and problems. On demand. *Prerequisites: Economics 101, 102 and Mathematics 135. No credit allowed after Management 211, Mathematics 210 or equivalent.*

#### 202 Statistics for Economics II (3)

Statistical inference with an emphasis on regression, a primary tool in economic analysis. Computer applications. *Prerequisites: Economics 201. No credit allowed after Management 212 or equivalent.*

#### 301 Money and Banking (3)

Development and analysis of the American monetary system and commercial and central banking; special attention to analysis and evaluation of monetary policies. Every semester. *Prerequisites: Economics 101, 102.*

#### 306 Public Finance (3)

Public expenditures and revenues, principles of taxation, public debt, and fiscal policy. On demand. *Prerequisites: Economics 101, 102.*

#### 317 Labor Economics and the Labor Process (3)

Theories of labor markets, the labor process, and income distribution. Economic aspects of issues such as discrimination, education and unemployment. On demand. *Prerequisites: Economics 101, 102.*

#### 324 Intermediate Microeconomic Theory (3)

Survey of developments in economic analysis; price determination, including considerable study of demand and cost theory; imperfect competition. On demand. *Prerequisites: Economics 101, 102.*

#### 325 Intermediate Macroeconomic Theory (3)

Introduction to contemporary theory of income and employment; emphasis on the essential principles and concepts used in the determination of the level of income and employment, the rate of economic growth, and the general price level. Every semester. *Prerequisites: Economics 101, 102.*

#### 404 International Economics (3)

The classical and modern theories of international trade; international trade accounting; exchange rates; tariffs and other restrictions on trade; recently created agencies and programs to promote international economic relationships; the influence of international economic relationships on world politics. On demand. *Prerequisites: Economics 101, 102, or equivalent.*

#### 415, 416 Economic History of the United States (3, 3)

See History 415, 416.

#### 417 Women in the Economy (3)

The role of women in the U.S. economy. An economic analysis of women's labor force participation, discrimination against women in the labor market, women's paid and unpaid work, the child care industry, and female poverty. On demand. *Prerequisites: 101, 102 or approval of instructor. May be registered as WSTU 417. Credit not allowed in both Economics and Women's Studies 417.*

#### 425 Industrial Organization (3)

The structure of industry, business conduct, and economic performance; analysis of antitrust law and government regulation. Every semester. *Prerequisites: Economics 101, 102.*

#### 426 Comparative Economic Systems (3)

Theoretical and empirical examination of various economic systems with emphasis on current capitalist and socialist economies. Objectives and outcomes of market and planned economies are compared. On demand. *Prerequisites: 101, 102.*

#### 429 Managerial Economics (3)

The solution of business problems by use of economic theory, accounting, marketing methods, financial techniques, etc. On demand. *Prerequisites: Economics 101, 102; Management 212, and Mathematics 136.*

#### 430 Environmental Economics (3)

An economic study of environmental issues and alternative solutions to them. Topics include measurement of cost and benefits, property rights and externalities, pollution control, and past, present, and future environmental policy and regulations. On demand. *Prerequisites: Economics 101, 102.*

#### 444 Economics of Underdeveloped Areas (3)

Factors underlying economic progress of nations and geographic areas; analysis of resources, manufacturing and agricultural productivity, saving and investment, trade, monetary and banking system, and fiscal system. On demand. *Prerequisites: Economics 101, 102, or graduate standing.*

#### 450 Marxian Political Economy (3)

An introduction to Marxian thought in general and Marxian economic theory in particular. Marxian analysis of theories of value and distribution, including modern radical economics. On demand. *Prerequisites: Economics 101, 102.*

#### 452 European Economic History (3)

The economic history of Europe from the breakup of the ancient world through the 19th century. Exploration of the relationship between economic growth and social development. On demand. *Prerequisites: Junior standing.*

#### 453 History of Economic Thought (3)

Development of theories of value and distribution, macroeconomics, money and banking, international trade, and business cycles; works of Smith, Malthus, Ricardo, Marx, Jevons, Marshall, Wicksell, Knight, Schumpeter, and Keynes. On demand. *Prerequisites: Economics 101, 102.*

#### 455 Urban Economics (3)

A study of the metropolitan economy with a problem orientation in areas of intrametropolitan industry location, urban residential location and travel behavior, the urban ghetto, housing markets, urban transportation, and environmental quality. On demand. *Prerequisites: Economics 101, 102.*

#### 460 Introduction to Econometrics (3)

The study of issues in economics and statistical tests of economic models through regression analysis. Also recommended for non-economics majors with an interest in economics and mathematics. On demand. *Prerequisites: Economics 101, 102; Management 212 or Mathematics 407.*

#### 465 Economics of Regulated Industries (3)

Presentation and analysis of economic aspects of regulation of public service industries. On demand. *Prerequisites: Economics 101, 102.*

#### 470 Seminar in Current Economic Topics (3)

The application of economic techniques and analytical methods to not less than five current topics, which may vary from semester to semester, selected by the instructor. Designed for senior economics majors. On demand. *Prerequisites: 6 hours of economics courses at the 300 level or above.*

**495r Departmental Honors**  
(1-3 hours per term, 4 hours for the two terms)  
On demand. See "Departmental Honors," page 39.

**497r Research (1-3)**  
Every semester.

**498r Individual Studies (1-3)**  
Every semester.

**499r Group Studies (1-3)**  
On demand.

## English

*Professor Verbie L. Prevost, Head*

The English Department offers programs leading to the B.A. in English with concentrations in literary studies and writing, along with course work toward the B.S. in the teaching of English in the secondary school (see the College of Education and Applied Professional Studies). Regardless of focus, the major in English emphasizes the critical study of language, literature, and rhetoric, and the writing of a wide variety of texts for diverse situations and audiences. Through reading, interpreting, and criticizing texts, the student has multiple opportunities to explore and participate in the tradition of using language to embody human experience. The variety of writing experiences available within the department allows students to reach an advanced level of competence in the use of language and those intellectual skills which support a variety of career options and professional choices. The major in English provides an essential and versatile education for both life and work.

## 1260 - English and American Language and Literature (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language

**Completion of a minor** with a minimum 2.0 grade point average.

### Major and Related Courses

A minimum of 39 hours English *in addition to general education requirements* with at least 12 hours at the 200 level, including English 201, 202, 205, 206; At least 27 hours at the 300-400 level including English 307, 361; and one course from 443r, 445r, 446r, 447r; Additional 300-400 level English courses to total at least 27 upper-level hours.

2.0 average in all English courses (excluding English 121 and 122)  
Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

For teacher certification see College of Health, Education and Professional Studies, page 121.

## 1261 - English and American Language and Literature: Writing (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language.

**Completion of a minor** with a minimum 2.0 grade point average.

### Major and Related Courses

A minimum of 39 hours English *in addition to general education requirements* including English 201, 202, 205, 206, 307, 361 and one course from 446r or 447r; 12 hours of major course work chosen from the following writing courses: English 270, 277, 278, 279, 300, 375r, 376r, 410, 446r, 447r, 471r, 473, 479 and 495r. Communication 230 and 363 may also be used to satisfy course work in the writing concentration.

Additional 300-400 level English courses to total at least 27 upper-level hours.

2.0 average in all English courses (excluding English 121 and 122)

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

## ENGLISH MINORS

### 4552 - English: Literature

21 hours including 113, 133, 207, one (1) course from English 211, 212, 213, 214 and three (3) from 300-400 level literature courses with one (1) course before 1800 and one (1) course after 1800 in American or English literature, and one (1) elective 300-400 level course in literature or writing to be chosen in conjunction with an academic advisor.

Minimum 2.0 average in the minor.

### 4553 - English: Writing

21 hours including 15 hours in writing courses and 6 hours elective courses at the 300 level or above, all to be chosen in conjunction with an academic advisor. Professional writing courses include: 277 or 278, 279, 300, 410, 471r. Creative writing (fiction or poetry) courses include: 270, 375r, 376r, 471r. The 15 hours may be achieved in any combination of professional and creative courses. The remaining six hours may be in writing or literature courses. At least 9 hours must be at the 300 level or above.

Minimum 2.0 average in the minor.

## ENGLISH COURSES (ENGL)

### 105 Developmental Writing I (3 hours of institutional credit)

Review of standard language forms. Requires extensive practice in the writing of sentences and paragraphs as well as in the practice of editing for proper punctuation and accurate grammatical structure. Every semester. Credit not applicable toward any degree. *Prerequisite: Placement required.*

### 106 Developmental Writing II (3 hours of institutional credit)

Emphasis on developing ideas and organizing them into coherent paragraphs while using standard language forms. Requires extensive practice in writing para-



graphs and short essays. Every semester. Credit not applicable toward any degree. *Prerequisite: Grade of C or better in English 105 or placement.*

### 113 Western Humanities I (3)

A historical approach to the pivotal ideas, systems of thought, and creations of the Western world from antiquity to approximately 1600 C.E. Emphasis on matters of literary structure, style, and content. *Corequisite: English 121.*

### 115 Western Humanities II (3)

A historical approach to the pivotal ideas, systems of thought, and creations of the Western world from approximately 1600 C.E. to the present. Emphasis on matters of literary structure, style, and content. *Prerequisite: English 121; Corequisite: English 122.*

### 121 Rhetoric and Composition (3)

The principles and practice of effective reading and writing. Frequent themes, exercises, selected readings. Attention to individual problems of grammar and usage. Formerly English 101. Every semester. *Prerequisite: Grade of C or better in English 106 or placement. In rare instances exemption from English 121 may be recommended by the department.*

### 122 Rhetoric and Composition (3)

Review of competencies stressed in English 121 with emphasis on the extended essay; use of research matter in writing; attention to diction, figurative and symbolic language, relationship of style and meaning. Formerly English 102. Every semester. *Prerequisite: English 121 with grade of C or better or placement.*

### 131 Values in 20th-Century American Fiction (3)

A study of contemporary values as reflected in selected twentieth century American novels and short stories from World War I to the present. Formerly English 111. On demand.

### 133 Introduction to Literature (3)

Readings from poetry, fiction, and drama to demonstrate how the writer selects from ideas, experience, and language and combines these elements to speak of and to the human condition. Formerly English 103. Fall and spring semesters.

### 161 English as a Foreign Language I (3)

The first of two sequential courses in ESL, this course offers nonnative speakers intensive practice in reading, writing and the more difficult points of English usage. Required during the first term of residence of all students who are nonnative speakers of English and who are placed in the course on the basis of the English department's writing proficiency examination that must be completed before registration by all nonnative speakers of English. Fall semester.

### 162 English as a Foreign Language II (3)

The second of two sequential courses in ESL, this course offers nonnative speakers intensive practice in writing and in the more difficult points of English usage and style. Required during the first term of residence of all students who are nonnative speakers of English and who are placed in the course on the basis of the English department's writing proficiency examination that must be completed before registration by all nonnative speakers of English. Spring semester. *Prerequisite: Placement test or completion of English 161.*

### 199r Special Projects (1-4)

Individual or group projects. Every semester. Maximum credit 4 hours for B.A. in English or B.S., Secondary Education in English. *With approval of department head.*

### 201 Introduction to Literary Analysis (3)

An introduction to critical concepts and skills required in the field of literary studies; approaches to analyzing and interpreting literary texts, genre forms and critical terminology, and research methods. Emphasis on close reading and careful critical writing. Fall and spring semesters. Must be completed within the first 21 hours of major course work. *Pre or co-requisite: English 122.*

### 202 Introduction to Rhetorical Analysis (3)

An introduction to rhetorical studies with an emphasis on rhetorical history, rhetorical analysis and rhetorical practice. Topics include natural and comparative/cultural rhetoric, the rhetoric of ancient Greece, and definition of rhetoric, past and present. Practice will include rhetorical analysis of texts and analysis of the rhetorical principles of purpose, situation, genre and audience. Must be completed within the first 21 hours of major course work. *Pre or co-requisite: English 122.*

### 203 Literature of the Humanities (3)

Selections from the literature of the Western tradition, from Homer to the end of the Renaissance; read in English and studied in the context of the other humanities and the fine arts. On demand.

### 204 World Literature from the Renaissance (3)

Selections from English literature of the Renaissance and later periods and from European and American writers. On demand.

### 205 Survey of British Literature (3)

Selected readings in major works of British literature from the middle ages to the present, with emphasis on historical, cultural and formal developments. Fall and spring semesters. Must be completed within the first 21 hours of major course work. *Pre or co-requisite: English 122.*

### 206 Survey of American Literature (3)

Selected readings in major works of American literature from the colonial period to the present, with emphasis on historical, cultural and formal developments. Fall and spring semesters. Must be completed within the first 21 hours of major course work. *Pre or co-requisite: English 122.*

### 211 Survey of English Literature to 1800 (3)

On demand.

### 212 Survey of English Literature since 1800 (3)

On demand.

### 213 American Literature to 1855 (3)

Representative works from the Colonial and Romantic periods. On demand.

### 214 American Literature from 1855 (3)

Representative works from the late 19th and 20th centuries. On demand.

### 219 African-American Literature (3)

Readings will be largely fiction with supportive critical works and some poetry and drama to examine the development of African-American literature from the 1850's to the present. Figures may include Harper, Chestnutt, Washington, DuBois, Hurston, Wright, Ellison, Brooks, Baldwin, Walker, and Morrison. Spring semester. *May be registered as Humanities 219. No credit allowed in both English and Humanities 219.*

### 228 Children's Literature (3)

A survey and evaluation of some of the best literature for children, with special attention to literature for preschool and elementary school years. *Prerequisite: one lower level course in written communication in English.*

### 229 Literature for the Adolescent (3)

A survey and evaluation of literature whose primary audience is the adolescent, with special attention to the usefulness of such literature in secondary education. Spring semester. *Prerequisite: one lower level course in written communication in English.*

### 230r Popular Fiction (3)

Science fiction or detective fiction or other type of popular fiction, one or another of which will be studied for its literary merit: the type of popular fiction to be studied in any particular section will be specified in the schedule of classes. On demand.

### 257 The Romantic Experience (3)

An interdisciplinary survey of "Romanticism" in European civilization, ca. 1789 to 1918, addressing and analyzing some of the main historical, philosophical, and aesthetic forces involved in this broad cultural experience. On demand. *May be registered as Humanities 257.*

### 260 Origins and History of Writing: Hieroglyphics to Hypertext (3)

A survey course designed to give students historical and philosophical grounding in the evolution of writing from the ancient hieroglyphics and the artistic manuscript of the medieval ages to the printed book and hypertext.

### 270 Creative Writing (3)

Instruction and practice in writing imaginative literature for magazines and specialized publications. Fall and spring semesters.

### 276 Technical Writing (3)

Preparation of documents that convey technical information to diverse audiences. Emphasis on audience analysis, information gathering, coordination of visual and verbal representations of data, and careful editing for precise language. Guidance in the electronic production of texts such as descriptions, abstracts, instructions, reports, presentations, proposals, graphics, brochures, resumes, and web pages. Fall and spring semesters. *Prerequisite: English 122 with a grade of C or better.*

### 277 Professional Writing (3)

An introduction to the variety and forms of workplace discourse. Emphasis on composing documents such as memos, letters, resumes and reports; planning and managing short- and long-term writing projects; integrating oral and written communication; and using new communication technologies. Fall and spring semesters. *Prerequisite: English 122 with a grade of C or better.*

### 278 Scientific Writing (3)

An introduction to the theory and practice of the different conventions of science writing. Practice in the analysis and writing of scientific reports and supporting materials such as abstracts, proposals, and research reviews. Emphasis on the challenges of communicating within a specialized audience as well as translating specialized language for general audiences. Fall and spring semesters. *Prerequisite: English 122 with a grade of C or better.*

### 279 Writing for the Social Sciences (3)

An introduction to the theory and practice of the discourse used in social sciences. Emphasis on the processes of thinking involved in researching, reading, and communicating in these fields. Extended research and original essays with opportunities for the student to focus on his or her academic field. Fall and spring semesters. *Prerequisite: English 122 with a grade of C or better.*

### 300 Intermediate Rhetoric and Composition (3)

An introduction to the theory and practice of the basic kinds and combinations of discourse and their aims; extended essays and other writing assignments in these kinds of discourse. Fall and spring semesters. *Prerequisite: English 122.*

### 301 The Literature of England to 1300 (3)

Representative works in translation. On demand.

### 302 The Literature of England, 1300-1500 (3)

Representative works including Chaucer. On demand.

### 303 Early Renaissance Literature to 1600 (3)

Representative non-dramatic works from Tudor and Elizabethan periods. On demand.

### 304 Milton and the Seventeenth Century (3)

Representative works from the Jacobean and late Renaissance periods. On demand.

### 305 Age of Dryden, Pope, and Swift (3)

Representative works from the early 18th century. On demand.

### 306 Age of Johnson (3)

Representative works from the mid and late 18th century. On demand.

### 307 Shakespeare (3)

Reading and study of selected major plays with emphasis on essentials of character, plot, themes, language and staging. Fall and spring semesters. *Prerequisite: English 122.*

### 316 African Literature (3)

A study of selections from the literature of Africa. Emphasis on historical fiction and the oral tradition. On demand.

### 317 English Romantic Period (3)

Representative works from the period 1789-1837. On demand.

### 318 Victorian Literature (3)

Representative works from the period 1837-1901. On demand.

### 319 English Transitional Period (3)

Representative works from the period 1880-1920. On demand.

### 320 Modern British Literature (3)

Representative works from 20th-century England. On demand.

### 325 Colonial and Post-Colonial Literature in English (3)

A critical examination of English-language poetry, fiction, drama and prose from former colonies and dependencies of the British empire. Special emphasis on defining the imperial and colonial experiences and on the literary legacy of British imperialism. On demand. *Prerequisite: English 122.*

### 331 American Women Writers (3)

A survey of American women writers of the 20th century. On demand. *Prerequisite: English 122. May be registered as WSTU 331. Credit not allowed in both English and Women's Studies 331.*

### 332 Southern American Literature (3)

Emphasis on 20th century authors. On demand.

### 333r Masterpieces of Asian Literature (3)

Study of representative works with emphasis on a country, period, or genre. On demand.

### 335 African-American Slave Narrative Tradition (3)

Study of slave narratives and subsequent literature influenced by them. On demand. *May be registered as Humanities 335.*

### 350 Introduction to the Theory and Function of Literary Criticism (3)

The concepts, terminology, and procedures of formal literary study. Emphasis on the basic theoretical problems of criticism and relation of literary analysis to literary evaluation, etc. On demand.

### 351 History of Literary Criticism (3)

Selected readings from representative literary critics. On demand.

### 361 History of the English Language (3)

A survey of the history of the English language, beginning with its Indo-European backgrounds, tracing the development of Old, Middle, and Modern English through major changes in vocabulary, sound, word formation, and syntax. Fall and spring semesters. *Prerequisite: English 122.*

### 370 Persuasion and Propaganda (3)

A study of the powers and abuses of persuasion, using historical and contemporary examples. On demand.

### 374r Creative Writing: Nonfiction (3)

A seminar and workshop in writing with individual projects in creative nonfiction. On demand. *Approval of department head and instructor required to register for credit after 6 hours earned.*

### 375r Creative Writing: Poetry (3)

Instruction and practice in the understanding and writing of poetry. Spring semester. *Approval of department head and instructor required to register for credit after 6 hours earned.*

### 376r Creative Writing: Fiction (3)

Instruction and practice in the understanding and writing of fiction. Spring semester. *Approval of department head and instructor required to register for credit after 6 hours earned.*

### 395 Greek and Roman Tragedy in Translation (3)

See Classics 395.

### 400 Seminar in the Novel (3)

A seminar in the senior year designed to integrate the student's understanding of the novel as a genre. On demand.

### 410 Approach to Composition (3)

Designed to improve the student's writing and to improve the individual's ability as a critic of writing, particularly as a potential teacher of writing; focus on expository prose. Fall and spring semesters. *Prerequisite: English 122.*

### 416 Advanced Expository Writing (3)

An advanced writing-intensive course for students from a variety of majors. Designed to help students develop their analytical and composing abilities through demanding critical reading and writing. Also designed to train students to internalize the principles of writing style. Fall and spring semesters.

*Prerequisites: English 122 and junior standing or above.*

#### 420 Early English Drama, Origins to 1642 (3)

The English drama as a literary type, its history and development from Medieval times to 1642, exclusive of Shakespeare. On demand.

#### 421 Later English Drama, 1660-1800 (3)

Study of English drama from the Restoration through the 18th century. On demand.

#### 423 American Novel to 1900 (3)

Representative novels of American romanticism, realism, and naturalism. On demand.

#### 430 Development of the British Novel: from Defoe to George Eliot (3)

The development of the British novel from its origins in the 18th century through George Eliot and her contemporaries. On demand.

#### 431 The Modern British Novel (3)

On demand.

#### 433 Modern Poetry (3)

On demand.

#### 434 Twentieth-Century American Novel (3)

On demand.

#### 435 Modern American Drama (3)

Selected plays of representative dramatists with special emphasis on American drama since 1920. On demand.

#### 443r Major British Figures (3)

A reading course in the works of a major British writer or writers. Writers to be studied will be specified in the schedule of classes. On demand. *Maximum credit 6 hours for the degree.*

#### 445r Major American Figures (3)

A reading course in the works of a major American writer or writers. Writers to be studied will be specified in the schedule of classes. On demand. *Maximum credit 6 hours for the degree. May be registered as WSTU 445r only when the content focuses on female authors.*

#### 446r Major Issues in Rhetoric (3)

An intensive seminar on a focused issue in rhetoric. Specific subject to be identified in the schedule of classes. Open to English majors only; others with approval of instructor. *Prerequisite: 27 hours of English above the 100 level.*

#### 447r Special Topics in Literature and Language (3)

An intensive study seminar on a focused theme or topic in literature or language. Specific subject to be identified in the schedule of classes. Open to English majors only; others with approval of instructor. *Prerequisite: 27 hours of English above the 100 level.*

#### 450 Theories and Methods of Argument (3)

An advanced study in the theories and methods of argument. Students will review classical rhetoric and an Aristotelian model of persuasion with special emphasis on epideictic, deliberative, and forensic rhetorical classifications.

#### 460 Modern English Grammar (3)

An introduction to the system phonological, morphological, syntactical of present-day American English. Emphasis on various recent presentations of this system. On demand. *Prerequisites: 360, 361, or approval of the department head.*

#### 462 English As a Second Language (3)

This course offers nonnative speakers intensive practice in listening, speaking, reading, and writing English. The course is designed to enhance the student's academic course work in the areas of note taking, discussion, essay writing, research and documentation, and group presentation. *Course will not apply to any undergraduate major or degree. Cannot be taken for graduate credit.*

#### 471r Writing Workshop (3)

An advanced seminar in writing with individual projects in imaginative, expository, or critical writing. On demand. *Prerequisites: two writing courses above 100 level. Approval of department head and instructor required to register for credit after 6 hours earned.*

#### 473 Proposals, Articles and Technical Research (3)

Proposal-writing as practiced in government, academic, business, and industry, grounded in persuasive theory. Students will also learn technical research skills and write several technical/scholarly articles. Spring semester. *Prerequisites: English 121 and 122.*

#### 479r Writing Internship (3)

The writing internship provides 160 hours of hands-on experience for the student who is interested in a career as a writer in business, industry, government, or the helping professions and social services. Students must apply for the internship during the fall semester to be accepted as writing interns for the spring semester. Student interns work an average of 10 hours per week under the supervision of a professional writer in the Chattanooga area. Spring semester. *Prerequisites: English 121 and 122 and approval of internship coordinator one full semester in advance. Maximum 6 hours credit.*

#### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

Every semester. See "Departmental Honors," page 39.

#### 498r Individual Studies (1-3)

Individual study projects by special approval of department head. Every semester. *Maximum 3 hours for B.A. in English or B.S., Secondary English.*

#### 499r Group Studies (1-3)

Group study projects by special approval of department head. Every semester. *Maximum 3 hours for B.A. in English or B.S., Secondary English.*

## Exercise Science, Health and Leisure Studies

See College of Health, Education and Professional Studies, page 155.

## Foreign Languages and Literatures

*Professor O. Preble-Niemi, Head*

The department offers the B.A. degree in Foreign Languages with concentrations in French, Greek and Latin, Latin, and Spanish. A student may also pursue a B.A. in Humanities degree with an emphasis in classical civilization. Elementary and intermediate German are offered and may be chosen to fulfill the foreign language requirement. Modern language courses, taught in English, which deal with foreign literatures and civilizations, afford the non-foreign language student a broader perspective of other peoples and cultures.

The department also offers minor programs in Latin, Greek, Classics, Spanish, or French.

A native speaker of a language which is offered for credit by the Department of Foreign Languages and Literatures or anyone with native speaker proficiency in such a language must consult the department for proper placement and approval to enroll.

Independent studies will be offered only for 400-level courses, with the exception of courses in German and the Classical languages, which will be taught at any level in this format only upon availability of staff and mutual consent of student and instructor.

All incoming students who have three years or more of high school study in a single foreign language (and no college level study of the language) and who wish to continue study in that language will be required to take a placement test to determine their level of competence in that language. A student should begin study of the language in question at the level established by the placement level. Under special circumstances, exceptions may be granted upon appeal to the department.

## Classical Civilization

### 4532 - MINOR IN CLASSICS

18 hours in classical civilization including Classics 110, 310, 395, 396, 397 and Philosophy 351.  
Minimum 2.0 average in the minor.

#### CLASSICS COURSES (CLAS)

##### 110 Major Triumphs of Greece and Rome (3)

Major accomplishments of the Greco-Roman civilization and their impact upon the modern world. On demand.

##### 113 Western Humanities 1 (3)

An historical approach to the pivotal ideas, systems of thought, and creations of the Western world from antiquity to approximately 1600 C.E. Emphasis on ancient Greek and Roman thought and the classical tradition. *Corequisite: English 121.*

##### 199r Special Projects (1-4)

Individual or group projects. On demand. *Maximum credit four hours.*

##### 300 Scientific Terminology (2)

Designed to meet the needs of nonlanguage students. Origin and derivation of English words in common scientific usage. On demand.

##### 310 The Greco-Roman World (3)

The history, culture, and lifestyles of the ancient Greeks and Romans. On demand. *May be registered as History 310.*

##### 395 Greek and Roman Tragedy in Translation (3)

A study of the origin of tragedy and its dramatic and philosophical development in the works of Aeschylus, Sophocles, Euripides, and Seneca. On demand. *May be registered as English 395.*

##### 396 Classical Mythology (3)

A study of the origins and meaning of Greek and Roman myths, their importance for understanding ancient culture, and their influence on later literature and art. On demand.

##### 397 Greek and Roman Comedy in Translation (3)

A study of the origins, development, and changes in comedy as seen in the works of Aristophanes, Menander, Plautus, and Terence. On demand.

##### 495r Departmental Honors

(1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

##### 497r Research (1-4)

On demand.

##### 498r Individual Studies (1-4)

On demand.

##### 499r Group Studies (1-4)

On demand.

## FOREIGN LANGUAGES COURSES (FLNG)

### 101r, 102r Elementary Foreign Language (3-6, 3-6).

Basic Grammar, elementary reading (and conversation for a modern spoken language), 101 fall/102 spring. On demand. Student should consult department regarding use in satisfying University foreign language requirement.

### 213r, 214r Intermediate Foreign Language (3,3).

Intermediate foreign language study with grammar review and extensive reading (conversation for a modern spoken language), 213 fall/214 spring. On demand. Student should consult department regarding use in satisfying University foreign language requirement.

## French

### 1330 - Foreign Languages: French (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Completion of a minor** with a minimum 2.0 grade point average.

#### Concentration

27 hours French beyond second college year, including French 311-312, 321, 331-332, and 323.

A minimum of 6 hours of French at the 400 level.

2.0 average in all French courses.

To meet the requirements for the major, a minimum of 9 hours of 300 level or above must be taken at UTC.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## 4560 - FRENCH MINOR

18 hours in French, above 101-102, including 211-212; 9 hours must be at the 300 level or above. French 213 and 214 cannot be used for credit toward the minor.

Minimum 2.0 average in the minor.

## FRENCH COURSES (FREN)

### 101, 102 Elementary French (4,4)

Basic grammar, elementary reading, and conversation. 101 fall/102 spring semester.

### 199r Special Projects (1-4)

Individual or group projects. On demand. *Maximum credit 4 hours.*

### 211 Intermediate French for Conversation (3)

Intensive oral practice in French with emphasis in acquiring conversational skills and cultural awareness of the French speaking world. Class taught mostly in French. Fall. *Prerequisite: 101-102 or 2 years high school French or approval of department head.*

### 212 Perspectives on the French World (3)

Emphasis on oral proficiency and cultural awareness of the French speaking world, in preparation for upper level courses. Class taught mostly in French. Spring. *Prerequisites: French 211 or equivalent.*

### 213 Intermediate French for Reading (3)

Continuation of grammar, and oral practice in French with emphasis in acquiring reading skills. Classes taught mostly in English with discussion in French or in English. Fall. *Prerequisites: 101-102 or 2 years high school French.*

### 214 Intermediate French for Reading (3)

Readings on French culture, literature and civilization. Emphasis in acquiring reading and translation skills. Classes conducted mostly in French with discussion in English or in French. Spring. *Prerequisites: 211, 213 or equivalent.*

### 311, 312 Composition and Conversation (3,3)

Selections from French literature, topics of current interest and articles from French newspapers and magazines may be used as a basis for discussions and compositions. 311 fall/312 spring semester on demand. *Prerequisites: 211, 212 and oral proficiency with a rating of Novice-High or approval of the department head; English 121, 122 with grades of C or better.*

### 321 Advanced French Grammar (3)

Special problems in syntax, illustrative reading, composition. On demand. *Prerequisites: 211, 212 or approval of department head.*

### 323 Introduction to French Culture (3)

The fine arts, patterns of living, and total life-style of the French people approached through their language. Geographical and historical backgrounds included. On demand. *Prerequisites: 211, 212 or approval of department head.*

### 331, 332 Introduction to French Literature (3,3)

Representative works from the beginning to 1800 with attention to cultural, political, and social background. Sequel from 1800 to the present. 331 fall/332 spring semester. On demand. *Prerequisites: 211, 212 or approval of department head.*

### 340 French Internship (3)

A cooperative arrangement between the university and specific elementary or middle schools, social service agencies or businesses involved with either foreign language instruction, service to foreign language-speaking clients, or business transactions with companies abroad. Every semester. *Prerequisite: Junior or senior standing and approval of department head.*

### 401r Special Topics in French Language or Literature (2-3)

A reading course with emphasis on a field, period, or author, or on a topic of philology or linguistics, or on teaching methods. On demand. By special arrangement with the head of the department and the instructor. *Prerequisites: 311-312, 331-332, or approval of department head.*

*The focus of the following courses may include the development of the novel, the theater, poetry, narrative techniques, various critical approaches to works within a century and Francophone literature with particular emphasis on Quebec Studies.*

### 405 Romance Philology (3)

Historical linguistics, the development of Romance languages from Vulgar Latin into modern Romance Languages. Covers basic linguistic concepts and terminology as well as phonological and morphological developments in Romance languages with particular emphasis in French and Spanish. *Prerequisites: French 321 or second year Latin, or approval of instructor.*

### 407 Seventeenth Century French Literature (3)

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

### 409 Eighteenth Century French Literature (3)

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

### 411 Nineteenth Century French Literature (3)

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

### 413 Twentieth Century French Literature (3)

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

### 430 Cultural Experience (0)

An intensive language experience in the United States or abroad. *Prerequisites: 311-312, 331-332, or equivalent. Requires approval of department head.*

### 495r Departmental Honors

**(1-3 hours per term, 4 hours for the two terms)**

On demand. See "Departmental Honors," page 39.

### 497r Research (1-4)

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

### 498r Individual Studies (1-4)

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

### 499r Group Studies (1-4)

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

## German (GER)

### 101, 102 Elementary German (4,4)

Basic grammar, elementary reading, and conversation. 101 fall/102 spring semester.

### 199r Special Projects (1-4)

Individual or group projects. On demand. *Maximum credit four hours.*

### 211 Intermediate German for Conversation (3)

Grammar review, intensive oral practice in German, limited readings. Fall semester. On demand. *Prerequisites: 101-102 or two years high school German.*

### 212 Perspectives on the German World (3)

Emphasis on oral proficiency and cultural awareness, with limited grammar and readings. Spring semester. *Prerequisites: German 211 or equivalent.*

### 213 Intermediate German for Reading (3)

Grammar review, extensive reading in German, with discussion in English. Fall semester. *Prerequisites: 102 or two years high school German.*

### 214 Intermediate German for Reading (3)

Readings in Germanic culture, literature and civilization. Emphasis on acquiring reading and translation skills. Classes conducted mostly in German with discussion in English or German. Spring semesters. *Prerequisites: 211, 213 or equivalent.*

### 495r Departmental Honors

**(1-3 hours per term, 4 hours for the two terms)**

On demand. See "Departmental Honors," page 39.

### 497r Research (1-4)

On demand.

### 498r Individual Studies (1-4)

On demand.

### 499r Group Studies (1-4)

On demand.

## Greek

### 1332 - Foreign Languages: Greek and Latin (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Completion of a minor** with a minimum 2.0 grade point average.

#### Concentration

18 hours Latin beyond 101, 102

12 hours Greek

2.0 average in all Greek and Latin courses

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours

See page 35 for additional requirements

### 4574 - GREEK MINOR

18 hours of Greek above 101 with at least 9 hours at the 300 level or above.

Minimum 2.0 average in the minor.

#### GREEK COURSES (GRK)

##### 101, 102 Elementary Greek (3,3)

Elements of the Greek language. Reading of Greek prose. 101 fall/102 spring semester.

##### 199r Special Projects (1-4)

On demand.

##### 310 Readings of Greek Literature (3)

A study of the development of Greek literature with selections from representative authors. On demand.

##### 312 Advanced Greek Grammar and Composition (3)

On demand.

##### 350r Greek Prose (3)

Greek historians, Attic orators, and Greek philosophers considered in different semesters. On demand.

##### 351r Greek Poetry (3)

Greek tragedy, comedy, and lyric poetry considered in different semesters. On demand.

##### 425r Special Topics in Greek Literature (2)

Readings in a specific author, genre, or period. On demand.

##### 495r Departmental Honors

(1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

##### 497r Research (1-4)

On demand.

##### 498r Individual Studies (1-4)

On demand.

##### 499r Group Studies (1-4)

On demand.

## Italian (ITAL)

101, 102 Elementary Italian (4,4)

Basic grammar, elementary reading, and conversation. On demand.

### 211, 212 Intermediate Italian for Conversation (3,3)

Grammar review, intensive oral practice in Italian, limited readings. On demand.

Prerequisites: 101-102 or 2 years high school Italian.

## Latin

### 1334 - Foreign Languages: Latin (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Completion of a minor** with a minimum 2.0 grade point average.

#### Concentration

21 hours Latin beyond 101, 102; 9 hours from Classics 310, 395, 396, 397

2.0 average in all Latin courses

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours

See page 35 for additional requirements

### 4610 - LATIN MINOR

18 hours of Latin above 101 with at least 9 hours at the 300 level or above.

Minimum 2.0 average in the minor.

#### LATIN COURSES (LAT)

##### 101, 102 Elementary Latin (3,3)

Elements of the language. Reading of Latin prose. 101 fall/102 spring semester.

##### 199r Special Projects (1-4)

Individual or group projects. On demand. *Maximum credit 4 hours.*

##### 201 Intermediate Latin (3)

A continuation of first year Latin with an intensive review of basic Latin grammar. Emphasis on attaining reading skills through select authors. *Prerequisites: Latin 101-102 or 2 years of high school Latin.*

##### 202 Intermediate Latin (3)

Selected readings from Latin authors. *Prerequisite: Latin 201 or equivalent.*

##### 310 Readings in Latin Literature (3)

A study of the development of Latin literature with selections from representative authors. On demand.

##### 312 Latin Prose and Composition (3)

On demand.

##### 350r Latin Prose (3)

Sallust, Caesar, Tacitus, Seneca, Cicero, and Petronius considered in different semesters. On demand.

##### 351r Latin Poetry (3)

Latin lyric poetry, Roman comedy, Latin satire, Horace, Vergil, and Lucretius considered in different semesters. On demand.

##### 425r Special Topics in Latin Literature (2)

Readings in a specific author, genre, or period. On demand.

**495r Departmental Honors**  
(1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

**497r Research (1-4)**

On demand.

**498r Individual Studies (1-4)**

On demand.

**499r Group Studies (1-4)**

On demand.

## Modern Languages (MLNG)

**100 A Profile of French Culture (3)**

A humanistic view of the patterns of living and total life-style of the French people with special attention to their art, music, and literature (in translation). Geographical, historical, and linguistic backgrounds included. On demand. *No foreign language credit.*

**110 A Profile of German Culture (3)**

A humanistic view of the patterns of living and total life-style of the German people with special attention to their art, music, and literature (in translation). Geographical, historical, and linguistic backgrounds included. On demand. *No foreign language credit.*

**120 A Profile of Hispanic Culture (3)**

A humanistic view of the patterns of living and total life-style of the Hispanic people with special attention to their art, music, and literature (in translation). Geographical, historical, and linguistic backgrounds included. On demand. *No foreign language credit.*

**199r Special Projects (1-4)**

Individual or group projects. On demand. *Maximum credit 4 hours. No foreign language credit.*

**201 Modern French and German Literature: Alienation through Conflict (3)**

French and German literature in translation; the study of dramatic and fictional works which reveal aspects of man's attempt to understand and explain his world. On demand. *No foreign language credit.*

**202 Language, Literature, and the Exile Experience (3)**

A literary and linguistic view of the exile experience. Selected readings from the literary outputs of exile communities in Europe and the U.S. Studies in language preservation and rejection in exiled communities. On demand. *No foreign language credit.*

**230 Contemporary Francophone African Cinema (3)**

An overview of recent African films from former French colonies with attention to issues of identity, heritage, and former colonial status. *May be registered as Theatre and Speech 230 or Humanities 230. No foreign language credit.*

**300 Masterpieces of French Literature in Translation (3)**

Study of representative works from French literature in relation to their cultural context. On demand. *No foreign language credit.*

**301 French Women Writers in Translation (3)**

Contributions of French women writers to the social, economic and political institutions of French culture. Readings from several disciplines. Topics studied are gender roles, systems of authority, masculine/feminine representations of reality, and the concept of "feminine" writing. On demand. *No foreign language credit. May be registered as WSTU 301. Credit not allowed in both Modern Languages and Women's Studies 301.*

**302 Latin American Women Writers in Translation (3)**

Contributions of Latin American women writers to the social, economic, and political institutions of Latin American culture. Readings from literary selections in several genres. Topics will include gender roles, systems of authority, mascu-

line/feminine representations of reality, and the concept of "feminine" writing. On demand. *No foreign language credit. May be registered as WSTU 301. Credit not allowed in both Modern Languages and Women's Studies 302.*

**310 Masterpieces of Germanic Literature in Translation (3)**

Study of representative works from German or Germanic literature in relation to their cultural context. On demand. *No foreign language credit.*

**320 Masterpieces of Hispanic Literature in Translation (3)**

Study of representative works from Spanish, Catalan, Portuguese, or Latin-American literature in relation to their cultural context. On demand. *No foreign language credit.*

**330 Masterpieces of European Literature in Translation (3)**

Study of representative works from French, German, or Hispanic literature in relation to their cultural context with emphasis on a specific period, genre, or theme. On demand. *No foreign language credit.*

**497r Research (1-4)**

On demand.

**498r Individual Studies (1-4)**

On demand.

**499r Group Studies (1-4)**

On demand.

## Spanish

### 1336 - Foreign Languages: Spanish (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Completion of a minor** with a minimum 2.0 grade point average.

**Concentration**

27 hours Spanish beyond second college year, including Spanish 311-312, 321-322, 331-332, and 323 or 325

A minimum of 6 hours of Spanish at the 400 level

2.0 average in all Spanish courses

To meet requirements for the major, a minimum of 9 hours of 300 level or above must be taken at UTC. Intensive writing and oral communication skills are acquired by the completion of major requirements.

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours

See page 35 for additional requirements

### 4662 - SPANISH MINOR

18 hours in Spanish, above 101-102, including Spanish 211-212, 9 hours must be at the 300 level or above. Spanish 213 and 214 cannot be used for credit towards the minor.

Minimum 2.0 average in the minor.

**SPANISH COURSES (SPAN)****101, 102 Elementary Spanish (4,4)**

Basic grammar, elementary reading, and conversation. 101 fall/102 spring semester.

**199r Special Projects (1-4)**

Individual or group projects. On demand. *Maximum credit 4 hours.*

**211 Intermediate Spanish for Conversation (3)**

Continuation of grammar intensive oral practice in Spanish with emphasis in acquiring conversational skills. Class taught mostly in Spanish. Fall. *Prerequisite: 101-102 or 2 years high school Spanish.*

**212 Perspectives on the Spanish World (3)**

Emphasis on oral proficiency and cultural awareness of the Spanish speaking world, in preparation for upper level courses. Class taught mostly in Spanish. Spring. *Prerequisites: Spanish 211 or equivalent.*

**213 Intermediate Spanish for Reading (3)**

Continuation of grammar, and oral practice in Spanish with emphasis in acquiring reading skills. Classes taught mostly in English with discussion in Spanish or in English. Fall. *Prerequisites: 101-102 or 2 years high school Spanish.*

**214 Intermediate Spanish for Reading (3)**

Readings on Hispanic culture, literature and civilization. Emphasis in acquiring reading and translation skills. Classes conducted mostly in Spanish with discussion in English or in Spanish. Spring. *Prerequisites: 211, 213 or equivalent.*

**311, 312 Composition and Conversation (3,3)**

Selections from Spanish literature, topics of current interest, and articles from Spanish newspapers and magazines may be used as a basis for discussions and compositions. 311 fall/312 spring semester. On demand. *Prerequisites: 211, 212 and oral proficiency with a rating of Novice-High or approval of department head; English 121, 122 with grades of C or better.*

**321,322 Advanced Spanish Grammar (3,3)**

Special problems in syntax, illustrative reading, and composition. 321 fall/322 spring semester. On demand. *Prerequisites: 211, 212 or approval of department head.*

**323 Introduction to Spanish Culture (3)**

The fine arts, patterns of living, and total life style of the Spanish people approached through their language. Geographical and historical backgrounds included. On demand. *Prerequisites: 211, 212 or approval of department head.*

**325 Introduction to Spanish-American Culture (3)**

The fine arts, patterns of living, and total life-style of the Spanish-American people approached through their language. Geographical and historical backgrounds included. On demand. *Prerequisites: 211, 212 or approval of department head.*

**331 Masterpieces of Spanish Literature (3)**

Readings of representative works from the earliest epic and lyric poetry to the modern novel and theater with attention to cultural, political, and social background. On alternate years. *Prerequisites: 211, 212 or approval of department head.*

**332 Masterpieces of Latin American Literature (3)**

Readings of representative works from the Chronicles of the Conquest to contemporary works, with attention to the cultural, political and social background. On alternate years. *Prerequisites: 211, 212 or approval of department head.*

**340 Spanish Internship (3)**

A cooperative arrangement between the university and specific elementary or middle schools, social service agencies or businesses involved with either foreign language instruction, service to foreign language-speaking clients, or business transactions with companies abroad. Every semester. *Prerequisite: junior or senior standing and approval of department head.*

**400r Topics in Spanish Literature (3)**

Study of topics such as Spanish literature of the Golden Age, 18th and 19th century Spanish literature, The Generation of 1898, and contemporary Spanish literature. On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

**401r Special Topics in Hispanic Language or Literature (2-3)**

A reading course with emphasis on a field, period, or author, or on a topic of philology or linguistics. On demand. By special arrangement with the department head and the instructor. *Prerequisites: 311-312, 331-332, or approval of department head.*

**402r Topics in Spanish-American Literature (3)**

Study of topics such as Spanish-American novel, Spanish-American theater and poetry, and Spanish-American essay. On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

**403 Cervantes: Don Quijote de la Mancha (3)**

A critical reading of Cervantes' masterpiece, in its entirety, in the original seventeenth-century Spanish. The history, art, philosophy, religion, and literature of the Spanish Golden Age, presented as the background for Cervantes' novellas, are the impact of the Quijote and the imprint of Cervantes' prose style in modern Spanish. *Prerequisite: Spanish 331 or approval of instructor.*

**405 Romance Philology (3)**

Historical linguistics, the development of Romance languages from Vulgar Latin into modern Romance Languages. Covers basic linguistic concepts and terminology as well as phonological and morphological developments in Romance languages with particular emphasis in French and Spanish. *Prerequisites: Spanish 321-322 or second year Latin or approval of instructor.*

**406 Spanish Phonetics and Phonology (3)**

A course in the applied linguistics of Spanish pronunciation. Issues of Spanish pronunciation (standard and dialects) through phonetic transcription (using IPA), basic linguistic terminology, and accurate description of Spanish sounds. Also presents all the Peninsular and Latin American contemporary variants of spoken Spanish, including Spanish spoken in the U.S. *Prerequisites: Spanish 321-322 or approval of instructor.*

**430 Cultural Experience (0)**

An intensive language experience in the United States or abroad. *Prerequisites: 311-312, 331-332, or equivalent. Requires approval of department head.*

**495r Departmental Honors****(1-3 hours per term, 4 hours for the two terms)**

On demand. *Prerequisites: 311-312, 331-332, or approval of department head. See "Departmental Honors," page 39.*

**497r Research (1-4)**

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

**498r Individual Studies (1-4)**

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

**499r Group Studies (1-4)**

On demand. *Prerequisites: 311-312, 331-332, or approval of department head.*

# History

Professor William Wright, Head

## 1414 -History (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** History 103\*, 104\* and 105\* (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language



**Completion of a minor** with a minimum 2.0 grade point average.

### Major Requirements

39 hours in history including 103<sup>†</sup>, 104<sup>†</sup>, 105<sup>†</sup>, 203<sup>†</sup>, 204, and 301. At least one course (three hours) will be taken from each of the following categories of study:

- I. American History: 331, 332, 335, 336, 337, 338, 341, 343, 346
- II. European History: 311, 312, 313, 314, 315, 317, 318, 319, 320, 323, 324, 327
- III. Non-Western History: 364, 365, 367, 368, 370, 371, 372, 375, 376
- IV. 400-level courses: 401, 411, 412, 415, 416, 419, 422 (400-level courses are topical courses that may be taught as seminars in which enrollment will be limited to 15 students.)

The following special topics courses may be approved by the department head for credit in the most appropriate regional category: 385r, 350, 499r.

2.0 average in all history courses

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours

See page 35 for additional requirements

<sup>†</sup>Also satisfies general education requirements.

## 4581 - HISTORY MINOR

A minor in history consists of 18 hours in history including either 104 and 105 or 203 and 204 and at least three hours in each of the following areas at the 300 level or above:

- I. American History: 331, 332, 335, 336, 337, 338, 341, 343, 346
- II. European History: 311, 312, 313, 314, 315, 317, 318, 319, 323, 324, 327
- III. Non-Western History: 364, 365, 367, 368, 370, 371, 372, 375, 376

The following special-topics courses may be approved by the department head for credit in the most appropriate regional category: 385r, 350, 499r.

Electives to complete 18 hours,

Minimum 2.0 average in history courses.

## HISTORY COURSES (HIST)

### 103 World Civilizations I: World History from the Origins to c. 1000 (3)

This course will introduce students to human achievements of civilizations and cultures in Eurasia, Africa, and the Americas from the origins of civilization to about the year 1000. Rather than taking a strictly chronological approach, it will focus more on the emerging cultures or traditions as expressions of their time and place. The creation of myths, gods and goddesses, Hellenism, Confucianism, Hinduism, Buddhism, Judaism, Latin Christianity, and Islam will be examined as value systems that gave meaning and organization to human life, reflected in political, social, technological, and artistic achievements. It will also show that these traditions constrained human alternatives, providing a kind of cultural hegemony within cultures, and that these traditions remain important in our modern world. Every semester. *Co- or prerequisite: English 121.*

### 104 World Civilizations II: World History from c. 1000 to 1800 (3)

This course will show how rising wealth and expanding material culture in Southeast China and Northwestern Europe, and the Eurasian impact of the Mongols led to a dynamic global interaction. The demand for commodities stimulated exploration, trade, and imperialism. The course will examine feudalism in Western Europe and Japan, the great imperial states of Eurasia, Africa, and the Americas, and colonialism in Africa, Asia, and the Americas, as well as the rise of the modern state and capitalism. It will show how global cultures mutually interacted, traditions changed and constrained, and what social, cultural, artistic, and intellectual changes occurred. Every semester. *Prerequisite: English 121 & History 103. Formerly History 101; There is no prerequisite when taking 104 for 101 equivalent.*

### 105 World Civilizations III: World History from c. 1800 to the Present (3)

A chronological study of how world cultures respond to industrialization and the impact this process had on the world outside of Northwestern Europe, showing the origins of modern economic inequality and the "great division" of the world into rich and poor regions. It will consider the spread of the nation-state idea, the rise of modern science, the impact of a global economy, and the advent of mass destruction in the World Wars. Ethnicity and nationalism, migration, the changing role of women, mass culture, and international problems will be considered.

The tension between traditional values and materialism, technology and environmental problems, and the search for both continuity and change are also topics. Every semester. *Co-Prerequisite: History 104 ; prerequisite: English 121. Formerly History 102; There is no prerequisite when taking 105 for 102 equivalent.*

### 114 Heroes and Villains (3)

A biographical approach to world history. Personalities and their roles in shaping the modern world, to be selected from a variety of fields of human activity: politics, science, philosophy, religion, economics, war, etc. Attention given to interpretations concerning the role of individuals in history. Every semester.

### 120r Historical Themes (3)

An analysis of some topic of contemporary significance from an historical perspective. The theme under study to be viewed in a number of historical settings to add insights to our understanding of the present. On demand.

### 199r Special Projects (1-4)

Individual or group projects. Every semester. *Maximum credit 4 hours.*

### 203, 204 United States History (3, 3)

A survey of American History from the age of discovery to the present, with special attention to the peoples, ideas, and cultures that created the United States. First semester to 1865; second semester since 1865. *Co- or prerequisite, English 121.*

### 208 Introduction to Asian Civilizations: China and Japan (3)

A survey of the major trends of Chinese and Japanese history. Emphasis placed on traditional cultural values, periods of power and greatness, problems of modernization, and recent developments. Students should gain perspective on current conditions in China and Japan. On demand.

### 210 Western Christianity Since 1,000 (3)

The origins and development of Christian doctrines, church structures, political relationships and social teachings in the West; from c.1000 through the early twentieth century. On demand. *May be registered as Religion 210.*

### 221 Science, Technology, and Society in the Industrial Age (3)

An historical examination of the impact of scientific and technological change in Western society since the advent of the Industrial Revolution. On demand.

### 301 Seminars in History (3)

A seminar primarily intended for junior majors in history or education - social studies with a history concentration. Focusing on specific topics in American, European, or non-Western history, the course introduces students to historiographical debate, analysis of historical evidence, and current historical methodologies. Every semester. *Prerequisite: 12 hours in history or approval of the instructor.*

### 310 The Greco-Roman World (3)

The history, culture, and lifestyles of the ancient Greeks and Romans. On demand. *May be registered as Classics 310.*

### 311, 312 Medieval Europe (3, 3)

Europe from the fall of the Roman Empire to the Italian Renaissance; the first semester emphasizing the formation of medieval institutions to c. 1200; the second semester stressing the shattering of the medieval synthesis. On demand.

### 313 The Age of the Renaissance (3)

Economic, social, artistic, and political developments, 1300-1500; Italian Humanism; Christian Humanism; and ferment in the Church. Fall semester alternate years.

### 314 The Age of the Reformation (3)

Religious, political, social, and economic factors involved in the Protestant and Catholic Reformations in the 16th century. Spring semester alternate years.

### 315 Early Modern Europe, 1600-1750 (3)

Religious, political, economic, and social development in this period of contradiction and intellectual ferment; Puritans, counter-Reformation; Constitutionalism, Absolutism; Scientific Revolution, the Baroque in the arts. Fall semester alternate years.

### 317 The Era of the French Revolution and Napoleon (3)

Developments leading to the French Revolution and the fall of the monarchy, the

noble resurgence and the phases of the revolution; accomplishments and failures of the revolution; Napoleon Bonaparte as heir to the Bourbons and the Enlightenment and Revolution, and as a social engineer. Spring semester alternate years.

### 318 Europe in the Nineteenth Century (3)

Europe from the creation of the Napoleonic Empire to the outbreak of World War I; the development and failure of the Congress System; the operation of the balance of power and international relations; national consolidation and domestic political developments, the rise of imperialism, and the spread of industrial society. Fall semester alternate years.

### 319 Europe in the Twentieth Century (3)

Political, economic, and social development of the European states from the outbreak of World War I to the present. Special attention given to the problems of world wars and reconstruction, with development of conflicting ideologies, the impact of worldwide depression, the decline of European colonial systems, and the diplomacy of the Cold War. Spring semester alternate years.

### 320 Under Hitler's Shadow: Europe 1929-1945 (3)

A comparative approach to the study of Europe from the outbreak of the economic depression in 1929 to the end of the second World War in 1945. Beginning with the rise of the National Socialist party, it examines political, cultural, and economic affairs in other areas of Europe, and the consequences of Hitler's increasingly brash foreign policy. The course also focuses on WWII in Europe, focusing on the subjugation of the continent to German control, the Holocaust, resistance movements, and ultimate defeat of Hitler's Germany.

### 323, 324 History of England; History of Modern Britain (3, 3)

The history of Britain from the earliest times to the present; the first semester emphasizing constitutional and institutional developments to 1660; the second semester, the growth of political democracy, the British Empire, economic and social change. 323 fall/324 spring semester alternate years.

### 327 Russian History since 1800 (3)

Characteristics of Tsarist society in the 19th century, attempts to reform the nation, the revolutions of 1905 and 1917, and the Soviet system. On demand.

### 328 Viking History (3)

An examination of the political, military, social, technological, mythic, and cultural aspects of the Scandinavians' expansion from Russia to Finland from 793 to 1100. On demand.

### 331 Colonial and Revolutionary America (3)

The colonial period of American history from the earliest settlements in North America to independence and the U.S. Constitution; the European background to colonization, colonial settlements, the development of colonial social, political, and economic institutions, and the causes, course, and consequences of the American Revolution. On demand.

### 332 Early National Period, 1789-1840 (3)

The Constitution and presidencies of George Washington and John Adams; the War of 1812 and the emergence of nationalism; rise of the frontier; Jeffersonian and Jacksonian democracy, emphasis on political, social, and economic developments that forged the new nation. Alternate years.

### 335 The Civil War and Reconstruction (3)

The Old South and the causes of the Civil War; the leaders; the chief political, military, and economic developments from the Compromise of 1850 to the end of Reconstruction. Alternate years.

### 336 The Gilded Age (3)

The United States from the end of the Civil War to 1900. Alternate years.

### 337 Progressive America: From TR to FDR (3)

An examination of the political, economic, cultural, and diplomatic forces that shaped America in the early 20th century; topics include progressivism, World War I, the roaring twenties, and the Great Depression. Fall semester alternate years.

### 338 Contemporary America Since 1945 (3)

An examination of political, economic, and social aspects of the recent past, including post-World War II readjustments, the Cold War, the Kennedy years, the

Vietnam trauma, and the downfall of the "imperial presidency." Spring semester alternate years.

### 341 A History of the South (3)

The role of the South in the formation of the nation. Interpretations of the institutions and developments that made the South unique. Alternate years.

### 343 History of Tennessee (3)

A study of the political, economic, social, and cultural development of the state from the days of the Indians to the present. Spring semester.

### 346 Afro-American History (3)

A historical survey of Black Americans with some attention to African backgrounds; emphasis on the reaction of blacks to their experience in the New World. On demand.

### 350 War Through the Ages (3)

The evolution of war as an instrument of national policy and the effects of wars on the world balance of power. Treatment will be episodic, concentrating on the Persian and Peloponnesian Wars, the Punic Wars, the Hundred Years War, the Seven Years War, the Wars of the American and Spanish Revolutions and Napoleon, and the World Wars of the 20th century. On demand.

### 364 Traditional China: History and Culture (3)

A survey of Chinese history and culture prior to the impact of the West. Course readings provide a basic political and chronological orientation, but emphasis placed on literary and philosophical writings in translation, and on studies of the social structure of traditional Chinese society. Fall semester, alternate years.

### 365 Traditional Japan: History and Culture (3)

A survey of traditional Japanese history and culture prior to the impact of the West. Course readings provide a basic political and chronological orientation, but emphasis placed on literary, cultural, and artistic achievements, and on studies of the social structure of traditional Japanese society. Fall semester, alternate years.

### 367 Modern Japan (3)

A survey of Japan since Perry and the Meiji Restoration. Topics will include Meiji industrialization, foreign policy and Japanese imperialism, economic and social change, the rise of militarism, WWII, occupation, postwar economic growth, political and cultural change, and Japan's role as an economic superpower. Spring semester, alternate years.

### 368 East Asia in Modern Times (3)

East Asia since the mid-19th century and the effects of the West; the Opium War, modernization, the Chinese Revolution of 1911, Japanese expansion, Pearl Harbor and Hiroshima, Mao Tse-tung and the Chinese Communists. Spring semester, alternate years.

### 370 The Middle East (3)

Background and setting of the modern Middle East; factors influencing Great Power strategy; Islam; rise and decline of the Ottoman Empire; imperialism and the breakup of the Ottoman Empire. On demand. *Prerequisites: History 104, 105, or approval of instructor.*

### 371 History of Sub-Saharan Africa to 1880 (3)

Geography and people of Africa; origin of traditional African societies; major Sudanic empires; Islamic impact on Africa; oral traditions; slave trade and its consequences; African artistic, musical, architectural, and religious traditions; Africa and the age of discovery; Swahili city states; African commerce and technology; major central and southern African political developments. Fall semester, alternate years. Formerly 211.

### 372 History of Sub-Saharan Africa, 1880-Present (3)

Partition of Africa; ideological underpinnings of imperialism; growth of colonial systems and the African reaction; colonial devolution and independence; apartheid; the European colonial legacy; response of traditional African social and political structures to technological modernity; nature of modern African cultural trends and developments. Spring semester, alternate years. Formerly 212.

### 375 Colonial Latin America (3)

Survey of colonial Latin America beginning with contact with Spain in the 16th

century until the movements for Latin America Independence in the first quarter of the nineteenth-century. Fall semester, alternate years.

### 376 Latin America from Independence to the Present (3)

This course is designed as a survey of Latin American history from the movements for independence from Spain and Portugal beginning in the first quarter of the nineteenth century until the present. Specific topics will include the colonial heritage of Latin America, the roots of independence, the growth of nationhood, nineteenth- and twentieth-century economic development, caudillismo, and twentieth-century politics (particularly instances of dictatorship). Spring semester, alternate years.

### 385r National History (3)

A course dealing with a selected national history. On demand. Prerequisites: by special arrangement with the department head and instructor; specific prerequisites to be given when the topic is announced.

### 401 Senior Tutorial (3)

Directed readings, special study, and investigation. Primarily for senior majors in history and others interested in an intensive study of historical problems. Every semester.

### 411, 412 American Intellectual and Social History (3,3)

Survey and analysis of American assumptions, social attitudes, and institutions, and their effects on American life. First semester coverage extends to 1865. 411 fall/412 spring semester alternate years.

### 415, 416 Economic History of the United States (3,3)

First half from colonial period to 1873. Origins, development, and expansion of the American economy with emphasis on roles of government and business. Relationship between economic growth and social development designed to provide perspective on problems of modern society. 415 fall/416 spring semester alternate years. *May be registered as Economics 415, 416.*

### 417 The History of the Blues (3)

Origins of the blues in the U.S.; emphasis on historical antecedents and the social as well as economic conditions which shaped the nature and content of the music; patterns of musical migration; emphasis on various styles including Delta, Piedmont, Texas, Chicago, and West Coast Blues. Fall semester, alternate years.

### 419 The City in American History (3)

Role of the city in American history from colonial times to the present; emphasis on emergence of the 20th-century metropolis; city planning, problems of modern mass living, and other topics peculiar to urban history also considered. On demand.

### 422 European Women's History to 1800 (3)

A survey of the history of European women in the medieval and early modern eras. Topics covered will include pre-modern ideas about gender and women; women's role in and relationship to religion; women's work; women's position within the household; the effect of class, marital status, and urban vs. rural residence on women; the emergence of women's rights; and the effect of historical changes such as the Reformation and capitalism on the condition of women. Alternate years. *May be registered as WSTU 422. Credit not allowed in both History and Women's Studies 422.*

### 452 European Economic History (3)

The economic history of Europe from the fall of Rome to the end of the nineteenth century: economic developments from feudalism through industrialization, with emphasis on economic growth and social development. On demand. *May be registered as Economics 452.*

### 490 Internships in History (1-3)

Designed to provide practical experience with the materials and problems encountered by history professionals outside the traditional academic setting. Placements will be arranged on an individual basis. On demand. *Prerequisites: junior standing, B average in history courses, and approval of instructor.*

### 495r Departmental Honors

(1-3 hours per term, 4 hours for the two terms)

Every semester. See "Departmental Honors," page 39.

### 497r Research (1-3)

Every semester.

### 498r Individual Studies (1-3)

Every semester.

### 499r Group Studies (3)

Every semester.

## Geology

See Physics, Geology and Astronomy, page 94.

## Human Ecology

See College of Health, Education and Professional Studies, page 160.

## Human Services Management

See Political Science, Public Administration and Nonprofit Management Department, page 102.

# Interdisciplinary Studies

*Professor Herbert Burhenn, Head*

The Department of Interdisciplinary Studies coordinates a number of programs leading to baccalaureate degrees as well as several other non-degree programs. Because of their interdisciplinary nature, these programs draw upon the varied resources of a number of departments.

Degree program: Humanities (B.A.). A concentration in International Studies is also available. Non-degree program: University Studies.

## Humanities

*Professor John Trimpey, Coordinator*

The humanities generally comprise languages and literature, philosophy, religion, history, and the fine arts. With the approval of the Faculty Board for the Humanities, each major designs a program of study by selecting appropriate courses from those disciplines and from the humanities courses listed below.

## 1440 - Humanities (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language

**Completion of a minor** with a minimum 2.0 grade point average.

### Major and Related Courses

45 hours approved program of studies related to the culture of a time and place (America, Europe, or the non-Western world) or to a major idea or theme

lending itself to analysis through the disciplines of the humanities. Focus on human experience as revealed in the religious, intellectual, artistic, linguistic, and social actions which characterize the chosen area of study. No more than 15 hours at 100-200 level and no more than 18 hours in any one discipline. Maximum of 15 of the 45 hours may be awarded by the Faculty Board for the Humanities for independent study on campus or for knowledge gained in travel or in work.

2.0 average in all courses within approved program of study  
Minimum of 39 hours of 300 and 400 level courses  
Electives to complete 120 hours  
See page 35 for additional requirements

## 1441 - Humanities: International Studies (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language

Completion of a minor with a minimum 2.0 grade point average.

### Major and Related Courses

45 hours approved program of studies related to the culture of a time and place (excluding America) or to a major idea or theme lending itself to analysis through the disciplines of the humanities. Focus on human experience as revealed in the religious, intellectual, artistic, linguistic, and social actions which characterize the chosen area of study. No more than 15 hours at 100-200 level and no more than 18 hours in any one discipline. Maximum of 15 of the 45 hours may be awarded by the Faculty Board for the Humanities for independent study on campus or for knowledge gained in travel or in work.

2.0 average in all courses within approved program of study  
Minimum of 39 hours of 300 and 400 level courses  
Electives to complete 120 hours  
See page 35 for additional requirements

### HUMANITIES COURSES (HUM)

#### 199r Special Projects (1-4)

Individual and group studies. On demand.

#### 219 African-American Literature (3)

See English 219.

#### 230 Contemporary Francophone African Cinema (3)

See Modern Languages 230.

#### 257 The Romantic Experience (3)

See English 257.

#### 300 The Vietnam Conflict: Then and Now (3)

An introduction to the Vietnam War, its development, its meaning, and its impact on the social, political, economic, and cultural identities of the U.S. and Vietnam.

#### 311 Music of the World (3)

See Music 311.

#### 335 African-American Slave Narrative (3)

See English 335.

#### 336 The Development of Medieval Germanic Epic (3)

See English 336.

#### 385r International Fiction (3)

A study of works of fiction by writers from the international community, exclusive of works from and about the British Isles, Canada and the United States. Content may vary. *Prerequisite:* English 122.

#### 397 Music, the Arts, and Ideas (3)

See Music 397.

#### 483 Feminist Theory (3)

See Philosophy 483.

#### 490 Senior Educational Experience (3)

Thesis; oral and written presentation of progress required. The complete project will be presented for approval to the Faculty Board for the Humanities in the student's final semester. On demand. *Prerequisite:* senior standing, final semester. May not be taken concurrently with 497r.

#### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

#### 497r Research (1-4)

On demand. Prerequisite: approval of the coordinator and the department head.

#### 498r Individual Studies (1-4)

On demand. Prerequisite: approval of the coordinator and the department head.

#### 499r Group Studies (1-4)

On demand. Prerequisite: approval of the coordinator and the department head.

## INTERDISCIPLINARY STUDIES MINORS

### 4518 - Asian Studies

John Trimpey, *Coordinator*

18 hours selected from the following courses: Anthropology 333; English 233, 333r; Geography 405; History 208, 364, 365, 368, 369; Humanities 300. Not more than 6 hours may count toward both the major and this minor.

Minimum 2.0 average in the minor.

### 4522 - Africana Studies

Melissa Anyiwo, *Coordinator*

18 hours selected from the following courses with at least 8 hours at the 300-400 level: Anthropology 332; Criminal Justice 316; History 346, 371, 372; Psychology 242; Sociology 305, 430; English 219, 335; Music 317; Political Science 322.

Minimum 2.0 average in the minor.

### 4595 - International Studies

John Trimpey, *Coordinator*

18 hours including Political Science 102 or History 102, French or Spanish or German 212; plus 12 hours of course work selected from International Studies approved courses listed below. Courses must be chosen from outside the student's major, must be distributed over at least two different academic disciplines, and must include at least 8 hours at the 300-400 level. First year foreign language courses, as well as 213, 214, cannot be applied toward the minor. Corequisites: Initial three semesters of a modern foreign language related to the approved program of study, excluding 213, 214 foreign language courses.

Minimum 2.0 average in the minor.

International Studies Approved Course list: Art 431, 432; Anthropology 208, 307, 311, 332, 333, 350, 440; Economics 404, 426, 444, 453; English 233, 333r, 431, 443r; French 323, 331, 332; Environmental Science 250; Geography 103, 104, 250, 305, 409; History 208, 318, 319, 324, 327, 364, 365, 367, 368, 370,

372, 385r; Humanities 300, 311, 385r, 499r; Music 311, Religion 211, 213, 313, 318, 362, 417; Political Science 242, 244, 343r, 345, 346, 441r, 442r; Sociology 310, 365, 440; Spanish 323, 325, 331, 332; University Studies 202, 301; Modern Languages 100, 110, 120, 201, 301, 310, 320, 330; Business Accounting 481; Business Finance 482; Business Management 438, 439, 483; Business Marketing 318, 484.

## 4615 - Latin American Studies

Oralia Preble-Niemi, *Coordinator*

18 hours including a 12-hour core consisting of: History 375 or 376, Geography 304, Anthropology 229, and Political Science 246. The remaining 6 hours to be selected from: Anthropology 228; History 375, 376 (excluding the one taken to satisfy core requirements); Modern Languages 302, 320; Political Science 344; and any Special Topics courses with a focus on Latin America offered by any UTC department, subject to approval of the Latin American Studies Minor Advisory Council.

Corequisites: Proficiency in Spanish through the second college year, excluding Spanish 213 and 214, and a Study Abroad experience in a Latin American country for a minimum of six (6) weeks. Minimum 2.0 required in the minor.

## 4680 - Women's Studies

Marcia Noe, *Coordinator*

18 hours required with at least 8 hours at the 300-400 level:

Women's Studies 200 and 15 hours Women's Studies courses listed below.

However, no more than two courses (6 hours) in a single academic department can be applied toward the minor.

Minimum 2.0 average in the minor

## WOMEN'S STUDIES COURSES (WSTU)

### 200 Introduction to Women's Studies (3)

An examination of human experience from a feminist perspective. An exploration of the ways in which women have been defined and have defined themselves. A multi-disciplinary teaching context with focus on women's self identity, women's identity in families, and women's identity in society. *Prerequisites: English 121, 122.*

### 202 Women's Issues in South Asia (3)

A survey of contemporary issues for women in South Asia. On demand.

### 222 Women's Health Issues (3)

A review of current literature and discussion of issues affecting contemporary women's health. The course will introduce the biological, psychological, social, economic, and cultural factors which affect the health of women in Western society. Students will be challenged to examine their attitudes on controversial issues such as birth control, childbirth alternatives, abortion, women's self image, and aspects of aging. On demand. *Prerequisite: English 122 or its equivalent. Open to non-majors. May be registered as Nursing 222. Credit not allowed in both Nursing and Women's Studies 222.*

### 295 Violence Against Women (3)

Examines a variety of forms of violence against women in the United States including domestic violence, sexual assault, sexual harassment and pornography. Explores how violence against women has been minimized in society and how the criminal justice system has rarely developed effective ways to address these types of crimes. *May be registered as Criminal Justice 295. Credit not allowed in both Criminal Justice and Women's Studies 295.*

### 301 French Women Writers in Translation (3)

Contributions of French women writers to the social, economic and political institutions of French culture. Readings from several disciplines. Topics studied are gender roles, systems of authority, masculine/feminine representations of reality, and the concept of "feminine" writing. On demand. *No foreign language credit. May be registered as MLNG 301. Credit not allowed in both Modern Languages and Women's Studies 301.*

### 302 Latin American Women Writers in Translation (3)

Contributions of Latin American women writers to the social, economic, and political institutions of Latin American culture. Readings from literary selections in several genres. Topics will include gender roles, systems of authority, masculine/feminine representations of reality, and the concept of "feminine" writing. On

demand. *No foreign language credit. May be registered as MLNG 302. Credit not allowed in both Modern Languages and Women's Studies 302.*

### 304 Gender in the Workplace (3)

The impact of gender in the workplace. A close study of cultural factors as they pertain to modern attitudes, beliefs, and practices concerning working men and women. Formerly Human Services 204. *Prerequisite: English 122 or equivalent. May be registered as Human Services 304. Credit not allowed in both Human Services and Women's Studies 304.*

### 305 Sex and Gender (3)

Evolutionary and cross-cultural analysis of formation of sex and gender in human societies, with special focus on the relative status of women, and the development of masculine and feminine differences in communication and activities. *Prerequisite: Anthropology 152 or 207 or 208 or 210, or approval of instructor. May be registered as Anthropology 305. No credit for both Anthropology and Women's Studies 305.*

### 307 Gender and Society (3)

Analysis of how ideas about gender are socially constructed and the importance of women-centered theories on this approach; the interplay of gender and various social structures including education, religion, politics, family, health, work and sexuality. *Prerequisite: 3 hours Anthropology or approval of instructor. May be registered as Sociology 307. Credit not allowed in both Sociology and Women's Studies 307.*

### 310 Feminist Literary Criticism (3)

The history, theory and practice of feminist literary criticism studied in cultural context.

### 324 Race, Gender and the Media (3)

Examines the roles of ethnic minorities and women as members and consumers of the media. Spring semester. *Lecture 3 hours. Prerequisite: junior standing or approval of instructor. May be registered as Communication 324. Credit not allowed in both Communication and Women's Studies 324.*

### 331 American Women Writers (3)

A survey of American women writers of the 20th century. On demand. *Prerequisite: English 122. May be registered as English 331. Credit not allowed in both English and Women's Studies 331.*

### 336 Women in Politics (3)

An examination of the role and status of women in the American political system. Special emphasis given to the impact of selected public policies upon women. On demand. *May be registered as Political Science 336. Credit not allowed in both Political Science and Women's Studies 336.*

### 366 Goddess Traditions (3)

A cross-cultural survey of major goddess traditions of wide geographic distribution, this course addresses implications of what it means to talk about deities using female terminologies and associations. The seminar format involves reading, discussion, writing, and original research. *May be registered as Religion 366. Credit not allowed in both Religion and Women's Studies 366.*

### 417 Women in the Economy (3)

The role of women in the U.S. economy. An economic analysis of women's labor force participation, discrimination against women in the labor market, women's paid and unpaid work, the child care industry, and female poverty. On demand. *Prerequisites: 101, 102 or approval of instructor. May be registered as History 417. Credit not allowed in both History and Women's Studies 417.*

### 422 European Women's History to 1800 (3)

A survey of the history of European women in the medieval and early modern eras. Topics covered will include pre-modern ideas about gender and women; women's role in and relationship to religion; women's work; women's position within the household; the effect of class, marital status, and urban vs. rural residence on women; the emergence of women's rights; and the effect of historical changes such as the Reformation and capitalism on the condition of women. Alternate years. *May be registered as History 422. Credit not allowed in both History and Women's Studies 422.*

### 425 Gender, Crime and Criminal Justice (3)

This course is intended to provide an overview of women's involvement in the criminal justice system as offenders, victims and professionals. Considerable

attention will be given to women as victims of crime, the social system and the criminal justice process. On demand. *Prerequisite: Criminal Justice 110 or completion of social science general education requirement or approval of instructor. May be registered as Criminal Justice 425. Credit not allowed in both Criminal Justice and Women's Studies 425.*

#### 434 Politics of Child Care (3)

An examination of child care policy in the United States and its implications for public policy making in general. *May be registered as Political Science 434. Credit not allowed in both Political Science and Women's Studies 434.*

#### 445r Major American Figures (3)

A reading course in the works of a major American writer or writers. Writers to be studied will be specified in the schedule of classes. On demand. *Maximum credit 6 hours for the degree. May be registered as English 445r only when the content focuses on female authors.*

#### 451 Psychology of Women (3)

Analysis of empirical data and theoretical viewpoints concerning the psychological development of women. Psychological effects of sex roles, achievement motivation, and abilities of women; models of socialization practices, personality development, and stages of adjustment. Fall semester. *Prerequisite: 6 hours of psychology and junior standing. May be registered as Psychology 451. Credit not allowed in both Psychology and Women's Studies 451.*

#### 455r Topics in Women's Studies (1-4)

Specific topics, themes and subjects related to women's studies. On demand.

#### 483 Feminist Theory (3)

A history of feminist theory from the eighteenth century to the present. Extensive reading, papers. *Maybe registered as Humanities 483 or Women's Studies 483. Credit allowed in only one of the three courses.*

#### 498r Individual Studies (1-4)

On demand. Approval of department head.

#### 499r Interdisciplinary Seminars (1-4)

Specific topics, themes, and subjects for which the interdisciplinary approach is useful. On demand.

## University Studies

Professor Herbert Burhenn, Head

University Studies offers a variety of interdisciplinary courses and seminars which may be taken for elective credit or, when approved, may satisfy certain major or general education requirements.

### UNIVERSITY STUDIES COURSES (USTU)

#### 100 Principles of Effective Study (3 hours institutional credit)

The study and development of reading and study skills that are required for college level study. Every semester. Credit not applicable toward any degree. *Prerequisite: approval of the instructor.*

#### 101 The Freshman Seminar (3)

An introduction to the nature of university education and a general orientation to the functions and resources of the University. Designed to help freshman adjust to the University, to develop a better understanding of the learning process, and to acquire basic academic survival skills, and to enrich their appreciation for the University's commitment to development of the intellect. Elective available to all students with fewer than 30 hours. Recommended during initial semester for students who enter the University with fewer than 15 hours. Offered Fall and Spring semesters.

#### 199r Interdisciplinary Seminars (1-4)

Specific topics, themes, and subjects for which the interdisciplinary approach is

especially useful. On demand.

#### 210 Death and Life in Literature (3)

The study of themes of death and dying in imaginative literature, with emphasis on the correlation between fictional representations of death and of life, its contents and values; and on the connection between metaphors of death and approaches to textual interpretation. Primary texts include poetry, short stories, essays, novels, and plays. On demand.

#### 225 Education in East Asia (3)

A systemic study of education in three developed countries (Japan, South Korea, and Singapore) and a comparison of the influence of educational philosophies upon institutions of that region and the U.S.

#### 311 Science Concepts and Perspectives (3)

Emphasis on understanding science from a personal and social perspective. Overall goal to develop values, attitudes, and skills through a study of science topics organized around themes rather than disciplines. Follows the recommendations of the National Research Council's National Science Education Standards. *Prerequisites: Two laboratory science courses. Corequisite: Education 312.*

#### 320 Social Studies Topics, Concepts and Perspectives (3)

An examination of concepts, theories and principles of history, sociology, anthropology, geography, political science, and economics in curricula typically developed for children age 6-14. Emphasis on diverse presentation. *Prerequisite: Education 306. Corequisite: Education 411.*

#### 330 Arts Integration (3)

Designed for pre-service education majors as an introduction to the philosophy and practice of arts integration. This course will provide students with basic knowledge of educational drama, dance, music and visual art, clear reasons for integration, specific integration principles applicable across the curriculum, and ongoing opportunities to develop, observe, lead and participate in arts integration instruction in elementary classrooms. *Prerequisites: Education 306, 323 or PDS I, and two courses from Art 301, Music 111 and Theatre and Speech 115.*

#### 340 Concepts of Language Literacy: Acquisition, Development, and Usage (3)

Examines the theoretical framework underlying the development of language and the communication processes. Designed to build an understanding of the concepts and skills of language development with an emphasis on facilitating clear thinking and effective communication in children of differing abilities and cultural backgrounds. Emphasis placed on listening, speaking, writing, and reading and on synthesis of the literary elements acquired from college course work. *Prerequisite: (for education majors only) Education 321 or 323 or equivalent, and Human Ecology 241 or 242 or equivalent. Corequisite: Education 313.*

#### 401 Laboratory Procedures and Safety (1)

Develop science laboratory and field teaching competencies appropriate for the pre-service secondary science teacher with emphasis on the content of the respective teaching major. Spring Semester. *Prerequisites: Education 306, 323, English 228; Corequisites: Education 454.*

#### 498r Individual Studies (1-4)

On demand. Approval of department head.

#### 499r Interdisciplinary Seminars (1-4)

Specific topics, themes, and subjects for which the interdisciplinary approach is useful. On demand.

## Legal Assistant Studies

See College of Arts and Sciences, page 62.

## Mathematics

Professor John Graef, Head

The Department of Mathematics offers two degree programs, the B.A. and the B.S. in Applied Mathematics.

The B.A. is the traditional liberal arts degree with a major in mathematics.

The B.S. in Applied Mathematics is a degree program designed to examine the growing influence of mathematics in business and industrial practices. The student must select a concentration in one of the following two areas: actuarial science or general mathematics.

Students who plan to teach at the secondary school level must meet state licensure requirements. These students need to consult with advisors in the College of Health, Education and Professional Studies and the Department of Mathematics. Through careful course selection, such students should be able to major in both Secondary Mathematics and Applied Mathematics: General.

In addition to its own degree programs, the Department provides extensive support for other programs requiring mathematics courses and for the University's General Education requirements. It also offers a minor in mathematics.

All entering students, except those transferring with an appropriate college level mathematics course or those receiving advanced placement credit, must take the Mathematics Placement Test. The UTC Department of Mathematics uses the test score both to assess the student's pre-college preparation and to determine whether prerequisites for certain of the 100 and 200 level courses are met. Students not making the required minimum must take Mathematics 105 or Mathematics 106, depending on their score. Test schedules are printed in the fall, spring and summer schedule of classes and are available online.

## Applied Mathematics (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours; approved courses listed below will apply)

**Statistics:** One approved course in statistics at the 300-400 level (3 hours; approved courses listed below will apply)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours; approved related courses in the actuarial concentration below will apply)

### Major and Related Courses

Computer Science 150, English 278, and one course from Theatre and Speech 109, 209 or University Honors 214

Mathematics 151<sup>†</sup>/152, 161/162, 212, 245, 255, 300, 350

*NOTE: Mathematics sequence may begin with 144 and/or 145 rather than 151/152 depending on preparation.*

### One of the following concentrations:

#### 2065 - General Mathematics

Mathematics 321 or 412; either Mathematics 307 plus 12 additional hours in Mathematics at the 300-400 level OR Mathematics 407 and 408 plus 9 additional hour in Mathematics at the 300-400 level excluding Mathematics 307.

In addition, the student must choose an established minor or design a program of study approved by the Mathematics Department Curriculum Committee consisting of 18 hours of courses in other disciplines, including at least 8 hours at the 300-400 level. A minimum grade point average of 2.0 must be achieved in these courses. Completion of a second major will satisfy this requirement.

#### 2068 - Actuarial Science

Mathematics 407, 408, 412, 465; one of 414, 420 or 424; plus 9 additional hours in Mathematics at the 300-400 level excluding Mathematics 307; Accounting 201, 202; Economics 101, 102, 324, 325; Finance 302, 337. Strongly recommended electives include Mathematics 401, 420 and Economics 460.

2.0 average in all mathematics courses and also in all 300-400 level mathematics courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

#### 1570 - Mathematics (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours; approved courses below will apply)

**Statistics:** Mathematics 307\* or 408\*

**Natural Sciences:** Physics 230/280\*, 231/281\*

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Behavioral and Social Sciences:** 2 approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language.

**Completion of a minor** with a minimum 2.0 grade point average.

### Major and Related Courses

Computer Science 150, English 278, and one course from Theatre and Speech 109, 209, or University Honors 214

Mathematics 151<sup>†</sup>/152, 161/162, 212, 245, 255, 300, 321, 350

*NOTE: Mathematics sequence may begin with 144 and/or 145 rather than 151/152 depending on preparation.*

Mathematics 307 or 408<sup>†</sup>

Five additional courses at the 300-400 level (excluding 303) including:

At least one course from 403, 407, 414, 440, 445, 460, 465, 470

At least one course from 408, 410, 412, 422, 424, 428, 450, 454, 466

Physics 230/280<sup>†</sup>, 231/281<sup>†</sup>

Decisions concerning the most appropriate 300-400 level courses for each student should be made in consultation with mathematics advisers, particularly for those students who are seeking teacher certification in mathematics and students who are planning graduate study.

2.0 average in all mathematics courses and also in all 300, 400-level mathematics courses

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours

See page 35 for additional requirements

\*Also satisfies requirement in the major.

<sup>†</sup>Also satisfies general education requirement.

#### 4620 - MATHEMATICS MINOR

Required courses: Mathematics 151/152, 161/162, 212, 245, 255

Elective courses: Three courses totaling at least 9 hours from any 300-400 level mathematics courses

A 2.0 average on the 300-400 level courses as well as on all courses in the minor

At least two of the 300-400 level courses must be taken at this institution

## MATHEMATICS COURSES (MATH)

*A minimum grade of C must be made on any mathematics course used as a prerequisite for any other mathematics course.*

### 105 Elementary Algebra (4 hours institutional credit)

Review of fractions, percents, and decimals. Basic topics in algebra, including operations with signed numbers and polynomials, linear equations and inequalities, factoring, rational expressions, radicals, basic graphing techniques, and elementary applications. Every semester. *UTC Math Placement Level 05. Credit not applicable toward any degree.*

### 106 Intermediate Algebra (4 hours institutional credit)

The real number system, first degree equations and inequalities, exponents and polynomials, factoring, rational expressions, rational exponents and roots, linear equations and inequalities in two variables, quadratic equations, systems of equations, absolute value equations, functions and applications. Every semester. Credit not applicable toward any degree. *Prerequisite: Math 105 with minimum grade of C and UTC Math Placement Level 15.*

### 123 Mathematics in Our Modern World (3)

An introduction to the nature and techniques of mathematics for nontechnical majors. Applications of mathematics to the solution of historical and modern problems will be discussed by selecting topics from the mathematics of finance, the laws of growth and symmetry, graph theory and management science, or the mathematics of social choice and voting schemes. Every semester. *Prerequisites: UTC Math Placement Level 20 or Math 106 with minimum grade of C.*

### 131 College Algebra (3)

This precalculus course is designed primarily for students majoring in business, the life sciences, or the social sciences who intend to take the calculus course Math 136. Topics include polynomial functions, exponential and logarithmic functions, arithmetic and geometric sequences, mathematics of finance, growth and decay, systems of linear equations, matrices, and geometric linear programming. Mathematical models will be taken primarily from the fields of business, biology, and the social sciences. Every semester. *Prerequisites: UTC Math Placement Level 20 or Math 106 with minimum grade of C. Credit not allowed in Math 131 after completion of Math 136 or 144 with a grade of C or better or any other mathematics course for which these are prerequisites. Credit not allowed in both Math 131 and 144.*

### 136 Calculus for Management, Life, and Social Sciences (3)

Introduction to calculus: limits, differentiation of functions, optimization, marginal analysis, integration, the Fundamental Theorem of Calculus, applications of integration. Every semester. *Prerequisites: UTC Math Placement Level 30 or Math 131 or 144 with minimum grade C. Credit not allowed in 136 after completion of Math 150 or 151 with a grade of C or better.*

### 144 Precalculus I (3)

This precalculus course is designed primarily for students majoring in Mathematics, the physical sciences, and Engineering who intend to take Math 145, Precalculus II, and the calculus courses Math 151/152. Topics include solving polynomial equations and inequalities; complex numbers; the Fundamental Theorem of Algebra; rational functions; graphing techniques; functions; exponential and logarithmic functions; mathematical induction. Mathematical models will be taken primarily from the fields of engineering, biology, and natural sciences. Every semester. *Prerequisites: UTC Math Placement Level 20 or Math 106 with minimum grade of C. Credit will not be allowed in Math 144 after Math 136, 145, 150, or 151 with a grade of C or better. Credit not allowed in both Math 131 and 144.*

### 145 Precalculus II (3)

This precalculus course is designed primarily for students majoring in Mathematics, the physical sciences, and Engineering who intend to take the calculus course Math 151/152. Topics include solving trigonometric identities, and equations; complex numbers; conic sections; sequences; and other selected topics. Every semester. *Prerequisites: UTC Math Placement Level 30 or Math 144 or 131 with minimum grade of C. Credit will not be allowed in Math 145 after 150 or 151 with a grade of C or better. Students wishing to use Math 131 as a prerequisite must secure the approval of the Mathematics Department.*

### 151 Calculus I (3)

The calculus of functions of one real variable for majors in Mathematics, the physical sciences, and Engineering. Precise definitions of limits, derivatives, and integrals including Riemann sums; applications of these concepts and the Fundamental Theorem of Calculus. Every semester. *Prerequisites: UTC Math Placement Level 40 or Math 145 with a minimum grade of C. Corequisite: Math 152.*

### 152 Calculus I Laboratory (1)

Calculator and computer treatment of problems and topics in Math 151 using graphical, numerical, and symbolic methods. *Laboratory, 2 hours. Pre- or Corequisite: Math 150 or 151.*

### 155 Honors Calculus (4)

Calculus of functions of one variable with applications; historical, biographical, philosophical material. Fall semester. *Prerequisite: University Honors Scholar, others by consent of the department head. Credit not allowed in both Math 150 or 151 and 155 or in 136 after 155. May be substituted for Math 151 in meeting all requirements.*

### 161 Calculus II (3)

Additional topics in the calculus of functions of one real variable. Applications of integration, techniques of integration, infinite series, and convergence tests. Every semester. *Prerequisites: Math 151 with a grade of C. Corequisite: Math 162.*

### 162 Calculus II Laboratory (1)

Calculator and computer treatment of problems and topics in Math 161 using graphical, numerical, and symbolic methods. *Laboratory, 2 hours. Prerequisites: Math 152 with a minimum grade of C. Pre- or Corequisite: Math 160 or 161.*

### 199r Special Projects (1-4)

Individual or group projects. On demand. *Maximum credit 4 hours.*

### 203 Discrete Mathematics for Computer Science (3)

Designed primarily for students majoring in computer information systems. topics will include logic, introduction to mathematical induction, sets, relations, counting methods, graph theory and trees. *Prerequisites: Mathematics 136 or 151/152 with minimum grades of C; Computer Science 150. Credit not allowed in this course after completion of Mathematics 303 or 403 with a grade of C or better.*

### 210 Introductory Statistics (3)

An introductory course suitable for students in a variety of disciplines. This course will teach students to interpret, develop, and use statistical and probabilistic models of real world phenomena; develop the concepts of uncertainty, probability, and statistical significance; and will indicate how these concepts arose and how they aid our understanding of the universe. Students will learn how to solve practical problems using statistical vocabulary, notation, and appropriate technology. Every semester. *Prerequisites: UTC Math Placement Level 20 or Math 106 with minimum grade of C. Credit not allowed in Math 210 after completion of any other General Education statistics course with a grade of C or better.*

### 212 Elementary Linear Algebra (3)

Systems of linear equations, matrix algebra, determinants, geometric vectors, vector spaces, linear transformations, eigenvalues and eigenvectors, inner product spaces. Every semester. *Prerequisite: Math 150 or 151 with a minimum grade of C.*

### 214 Principles of Elementary Mathematics (4)

Designed primarily for presecondary education majors to develop a thorough understanding of and ability to use basic mathematics including arithmetic, algebra, geometry, and measurements. Mastery of elementary and middle school mathematics must be demonstrated. Every semester. *Lecture 3 hours, laboratory 2 hours. Prerequisite: (a) UTC Math Placement Level 30 or above or a grade of C or above in any General Education Mathematics course; (b) pre- or corequisite: a general education statistics course.*

### 245 Introduction to Differential and Difference Equations (3)

First order and second order linear differential and difference equations, systems of equations and transform methods. Every semester. *Prerequisite: Math 160 or 161 with a minimum grade of C. Pre- or Corequisite: Math 212 with a minimum grade of C.*

### 255 Multivariable Calculus (3)



Lines, curves, and surfaces; partial derivatives, gradients, divergence and curl; multiple integrals and vector analysis. Every semester. *Prerequisites: Math 160 or 161 and 212 with minimum grades of C.*

### 300 Foundations of Mathematics (3)

Introductory concepts of sets, functions, equivalence relations, ordering relations, logic, methods of proof, and axiomatic theories with topics from combinatorics, graph theory, or abstract algebra. Fall and spring semesters. *Prerequisite: Math 160 or 161 and 162 with minimum grade of C. This course is a prerequisite for Math 321, 350, 403, 410, 412, 422, 430 and 452. Mathematics majors should enroll in it at the end of the sophomore year or beginning of the junior year.*

### 303 Discrete Structures (3)

Concepts and techniques of several areas of discrete mathematics with emphasis on areas often applied to computer science. Topics will include induction, algorithms, combinatorics, graph theory with emphasis on trees, formal language, grammars. Fall and spring semesters. *Prerequisites: Math 161/162 and Computer Science 150 with minimum grades of C. Credit not allowed on both Math 303 and 403.*

### 307 Applied Statistics (3)

Introduction to probability and statistical methods with applications to various disciplines. A study of some basic statistical distributions, sampling, testing of hypotheses, and estimation problems. Fall and spring semesters. *Prerequisite: Math 160 or 161 with minimum grade of C. Credit not allowed in both Math 307 and 407-408.*

### 321 Introduction to Modern Algebra (3)

Integral domains, rings, fields, groups, elementary number theory, and other selected topics. Spring semester. *Prerequisites: Math 212 and 300 (or approval of instructor) with minimum grades of C.*

### 350 Fundamental Concepts in Analysis (3)

Classical treatment of the basic concepts of calculus: limits, continuity, differentiation, Riemann integration, sequences and series of numbers and functions. Fall semester. *Prerequisites: Math 245, 255, and 300 with minimum grades of C.*

### 401 Mathematics of Interest (3)

Mathematical theory of interest with applications, including accumulated and present value factors, annuities, yield rates, amortization schedules and sinking funds, depreciation, bonds and related securities. Recommended for students planning to take actuarial exams. Fall semester alternate years. *Prerequisites: Math 160 or 161 with a minimum grade of C, or approval of the instructor.*

### 403 Graph Theory and Combinatorics (3)

Planar graphs, circuits, graph coloring, trees, general counting principles, generating functions, recurrence relations with applications to computer science including tree traversal, grammars, languages, and finite-state machines. Fall semester. *Prerequisites: Math 300 with a minimum grade of C, and either Computer Science 118 or 150 or equivalent. Credit not allowed in both Math 403 and 303.*

### 407 Introduction to Probability and Statistics (3)

Introduction to the theory of probability and its applications, counting techniques, sample spaces, random variables and their distributions, mathematical expectation, moment generating functions, binomial, Poisson, and normal distributions, Central Limit Theorem. Fall semester. *Prerequisite: Math 255 with minimum grade of C.*

### 408 Mathematical Statistics (3)

A continuation of Math 407 with an introduction to the theories of point and interval estimation, hypothesis testing, regression and correlation analysis, goodness of fit, chi-square, t and F distributions. Spring semester. *Prerequisite: Math 407 with minimum grade of C.*

### 410 Number Theory (3)

Divisibility, primes, congruencies, Fermat's Theorem, number theoretic functions, primitive roots and indices, the quadratic reciprocity law. Summer on demand. *Prerequisite: Math 300 with minimum grades of C.*

### 412 Linear Algebra and Matrix Theory (3)

Vector spaces, linear transformations, eigenvalue and similarity transformations, orthogonal and unitary transformations, normal matrices, Jordan form. Fall semester. *Prerequisites: Math 212, 245, 300 with minimum grades of C.*

### 414 Operations Research (Linear) (3)

Introduction to linear programming, duality, transportation and assignment problems, integer programming. Spring semester alternate years. *Prerequisites: Computer Science 118 or 150 or equivalent, Math 212 with minimum grade of C, or approval of instructor.*

### 420 Applied Statistical Methods (3)

Intermediate applied statistical analysis and model building. Covers One and Two Factor Analysis of Variance, Simple and Multiple Regression and Correlation, and Time Series Analysis. Spring semester. This course is recommended for students planning to take actuarial exams. *Prerequisites: Math 307 or 407 or Engineering 322 with a minimum grade of C, or approval of the instructor.*

### 422 Introduction to Point Set Topology (3)

Introductory set theory, topologies and topological spaces, continuous mappings, compactness, connectedness, separation axioms and metric spaces. Summer on demand. *Prerequisite: Math 300 with minimum grade of C.*

### 424 Operations Research (Non-Linear) (3)

Network flows, Markov chains and applications, queuing theory and applications, inventory theory, decision theory, and games. Spring semester alternate years. *Prerequisites: Computer Science 118 or 150 or equivalent, Mathematics 307 or 407 with minimum grade of C, or approval of instructor.*

### 428 Packages for Mathematical Computations (3)

The nature of libraries of procedures for solving mathematical problems, including the design parameters, selection of algorithms, problems with reliability and transportation. Several major mathematical packages will be examined in detail, including IMSL, LINPACK, EISPACK, MINPACK. On demand. *Prerequisites: Computer Science 118 or consent of instructor; Math 212/245, and one of the following: Math 308, Engineering 225, Computer Science 231 with minimum grades of C.*

### 430 The Historical Development of Mathematics (3)

Examination of central ideas, major developments, and important issues in mathematics from ancient times to the present. Historical overview of the evolution of the discipline through comparative examination of specific theories and results. Alternate fall and summer. *Prerequisite: Math 300 with a minimum grade of C.*

### 440 Applied Analysis (3)

Vector analysis through Stokes' Theorem and the Divergence Theorem. Topics in advanced calculus including implicit functions, Jacobians, interchange of limit processes, and uniform convergence of series of functions; introduction to power series solutions of differential equations. *Prerequisites: Math 245, 255 with minimum grades of C.*

### 445 Advanced Differential Equations (3)

Systems of differential equations; existence and uniqueness theorems; linear systems; phase plane analysis; stability theory; applications. Fall semester alternate years. *Prerequisite: Math 245, 255 with minimum grades of C.*

### 450 Modern Analysis (3)

Differentiation; inverse and implicit function theorems; functions of bounded variation. Integration and measure; integration on manifolds; Stokes' and Green's Theorems; other selected topics. On demand. *Prerequisite: Math 350 with minimum grade of C.*

### 452 Basic Concepts of Geometry (3)

Deficiencies in Euclidean geometry, Euclid's parallel postulate, introduction to non-Euclidean geometry, consistency and validity of non-Euclidean geometry, incidence geometries, affine geometries, linear, planar, and spatial order properties. Alternate fall and summer semesters. *Prerequisite: Math 300 with minimum grade of C or approval of instructor.*

### 454 Abstract Algebra (3)

A study of special topics from advanced algebra, various algebraic structures, and the applications of algebra. On demand. *Prerequisite: Math 321 or 412 with minimum grade of C or approval of instructor.*

### 460 Techniques of Applied Mathematics (3)

Additional topics in vector calculus; series of orthogonal functions; integral transforms; treatment of some elementary partial differential equations arising in applications. Spring semester alternate years. *Prerequisite: Math 245, 255 with minimum grades of C.*

### 465 Numerical Analysis I (3)

Numerical solutions of equations in one variable; interpolation and polynomial approximation; numerical differentiation and integration; initial value problems

for ordinary differential equations; direct methods for solving systems of linear equations. *Prerequisites: Math 212 and 245 with minimum grades of C, and a background in computer programming (for example, Computer Science 150).*

#### 466 Numerical Analysis II (3)

Iterative techniques for solving systems of linear equations; approximation theory; eigenvalue and eigenvector approximation; boundary value problems for ordinary differential equations; numerical solution to partial differential equations. *Prerequisite: Math 465 with a minimum grade of C, or approval of instructor.*

#### 470 Introductory Complex Variables (3)

Complex numbers; differentiation and integration of functions of a complex variable; analytic functions; Cauchy's Theorem; power series; residues and poles; conformal mapping; contour integration. Fall semester alternate years. *Prerequisites: Math 245, 255 with minimum grades of C.*

#### 475 Research Seminar (1)

Investigation of special topics in mathematics using the directed research technique. On demand. *Prerequisite: approval of department. Graded satisfactory/no credit.*

#### 495r Departmental Honors

(1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

#### 497r Research (1-4)

On demand.

#### 498r Individual Studies (1-4)

On demand.

#### 499r Group Studies (1-4)

On demand.

## Music

### Cadek Department of Music

Associate Professor Lee Harris, Acting Head

The requirements for entrance and graduation as set forth in the catalog are in accordance with the published regulations of the National Association of Schools of Music and the Tennessee regulations for certification of teachers.

The Cadek Department of Music offers two degree programs at the undergraduate level: Bachelor of Arts with a major in music and the Bachelor of Music. The B.M. degree provides four concentrations for the major: instrumental performance, vocal performance, sacred music, and theory/composition. The B.M. degree in music education provides two concentrations for the major: instrumental and vocal.

The B.A. degree is offered students who desire a strong liberal arts background with a major in music. Approximately one-third of the four-year B.A. program is in music, and numerous elective hours outside the department permit considerable study in other academic areas. The B.M. degree affords the student a more concentrated course of study in the major area: approximately two-thirds of the four-year program is in music. The B.M. degree in music education is especially appropriate for students who plan a career teaching music in elementary, middle, or secondary schools. It combines general education with music content and

teaching methodology in a highly structured course of study. Successful completion of the program gains the student teaching certification. All three degree programs represent appropriate preparation for graduate study.

In addition to University admission standards, prospective music majors will stand an audition in their primary performing area which will determine the appropriate applied music course level and degree program. All music majors are required to participate in an ensemble for each semester of residence appropriate to the concentration, and must accumulate a minimum of eight hours credit (seven hours for music education majors). For all music majors, a 2.0 average in music courses is required for enrollment in 300 and 400 level music courses. A senior educational experience is required of all majors.

In addition to degree requirements herein listed, other regulations for music majors appear in the current *Music Student Handbook*.

The following are suggested courses of study for the several degrees in music. Specific course requirements are listed by course number; general education category requirements are indicated by category only. Elective courses other than those included in general education requirements are indicated as "elective." Appropriate music ensemble requirements are indicated only as "ensemble" in the courses of study. Individual lessons are indicated as "Applied Music;" specific course numbers are determined according to level of study and specific instruments studied.

An ensemble is defined as any group of two or more performers, including a soloist and an accompanist. Large ensembles include Marching Band, Concert Band, University Orchestra, Chattanooga Singers, Chamber Singers, and Opera Workshop.

## 1640 - Music (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved course in statistics (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses other than Music 111, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Music 311\* (9 hours)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Languages:** Through second college year in one foreign language

**Completion of a minor** with a minimum 2.0 grade point average

### Major Requirements

Music 103, 104, 107, 108, 203, 204, 207, 208, 311<sup>†</sup>, 315, 316

Large ensemble participation (appropriate to the major) required each semester of residence, minimum 8 hours credit, with the exception of piano and guitar majors who may include up to 4 semesters of small ensemble participation.

8 semesters (8 hours) primary instrumental or vocal study

4 hours music electives in music history, music theory, or composition

4 hours music electives

2.0 average in all music courses

Senior Educational Experience

Seminar is required each semester of residence. A minimum of 8 semesters with a grade of "satisfactory" is required.

Minimum of 39 hours of 300 and 400 level courses

Electives to complete a minimum of 120 hours  
See page 35 for additional requirements

\* Also satisfies requirement in the major.

† Also satisfies general education requirement.

## Music (B.M.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses other than Music 111, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Music 311\* (9 hours)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

### Major Requirements

Music 103, 104, 107, 108, 203, 204, 207, 208, 311†, 315, 316

Large ensemble participation (appropriate to the major) required each semester of residence, minimum 8 hours credit, with the exception of piano and guitar majors who may include up to 4 semesters of small ensemble participation.

4 semesters (4 hours) piano study for nonkeyboard majors;

Sacred Music majors must have at least 4 hours in an approved choral ensemble; Performance majors required to present a half-recital in junior year, full recital in senior year;

Students must be registered for the appropriate applied instruction course in the semester of the recital.

One of the following concentrations:

### 3641 - Instrumental Performance

8 semesters (32 hours) primary applied study, 16 hours at the 200 level and 16 hours at the 400 level

Music 303

Music 330, 331, 332 (for piano majors)

10-12 hours music electives other than primary applied study

### 3660 - Vocal Performance

8 semesters (32 hours) voice study, 16 hours at the 200 level and 16 hours at the 400 level

Voice majors must take Music 028, Choral Union, in the first two semesters. The remaining semesters must include 2 semesters of Music 040, Opera Workshop, and a minimum of 4 semesters of appropriate large choral ensemble. Total credit hours will be a minimum of eight.

Music 217, 333, 303

One year of French or German (8 hours)

### 3651 - Sacred Music

4 semesters (8 hours) keyboard or voice study at the 200 level

4 semesters (4 hours) keyboard or voice study at the 300 level

4 semesters (8 hours) applied instrument of choice (for non-keyboard majors, 4 hours must be in piano study)

Music 217, 222, 303, 305r (2 hours), 310 321, 333, 334, 404, 405, 406, 498r (field work)

3 hours music electives other than primary applied study

## 3655 - Theory and Composition

4 semesters (4 hours) of 200 level primary applied study

4 semesters (4 hours) of 300 level primary applied study

Music 302, 305r (4 hours), 307

4 hours from Music 303, 310, 328

18 - 20 hours music electives

Composition Concentration: 8 hours of Music 401r

Music Theory Concentration: Music 407, 408, 409, 410

2.0 average in all music courses

Successful completion of Continuation Standards is prerequisite to enrollment in upper-division music courses.

Seminar is required each semester of residence. A minimum of 8 semesters with a grade of "satisfactory" is required.

Senior Educational Experience required

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours

See page 35 for additional requirements

\* Also satisfies requirement in the major.

† Also satisfies general education requirement.

## Music Education (B.M.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, other than Music 111, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Music 311\* (9 hours)

**Behavioral and Social Sciences:** Psychology 101\* and one approved behavioral or social science course (6 hours)

### Major and Related Courses

Psychology 101† and 221 or Human Ecology 242

Music 103, 104, 107, 108, 131, 132, 141, 142, 203, 204, 207, 208, 303, 311†, 315, 316, 321 and 432

NOTE: Music 131, 132, 141, 142 for piano proficiency (4 hours). All Music Education majors must pass a Piano Proficiency Examination as described in The Music Department Undergraduate Student Handbook.

21 hours from the College of Health, Education and Professional Studies including Education 201, 400, 433, 444r.

Music Education majors are required to present a half-recital or full recital in the senior year. The student must be registered for the appropriate applied course the semester of the recital.

One of the following concentrations:

### 3670 - Instrumental

Music 228, 325 and 328; 2 semesters (2 hours) choral ensemble or voice class (133, 134)

6 hours from Music 221, 223, 224, 225

Large ensemble participation appropriate to the concentration required each semester of residence, with exception of student teaching semester (minimum 7 hours)

4 semesters (4 hours) of 200 level primary applied study

3 semesters (3 hours) of 300 level primary applied study

Students must pass an Instrumental Methods Proficiency Examination for their major instrument family. Failure to pass will require the student to take the corresponding course (221, 223, 224, or 225) as a deficiency.

### 3672 - Vocal Music

Music 221, 222

2 semesters (2 hours) of Music 251r

Music 310, 333, 334 and 336

Large choral ensemble participation required each semester of residence, with exception of student teaching semester (minimum 7 hours)

4 semesters (4 hours) of 200 level primary applied study

3 semesters (3 hours) of 300 level primary applied study

Vocal music education majors must pass a Foreign Language Diction Proficiency Examination. Failure to pass will require the student to take Music 217 as a deficiency.

#### **Additional requirements for all Music Education Majors:**

Successful completion of Continuation Standards is prerequisite to enrollment in upper-division music courses.

Seminar is required each semester of residence. A minimum of 7 semesters with a grade of "Satisfactory" is required.

For graduation: 2.0 average in music and 2.0 average in College of Education and Applied Professional Studies courses

For licensure: 2.5 average cumulative, 2.5 average at UTC, 2.5, 2.5 average in education courses with no grade less than C, 2.5 in content area course work with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 125 hours.

See page 35 for additional requirements

See College of Health, Education and Professional Studies section for teacher education, licensure and student teaching requirements.

\* Also satisfies requirement in the major.

† Also satisfies general education requirement.

#### **Bachelor of Music Continuation Standards**

In order to assure the professional competence of graduates in Bachelor of Music programs, students must demonstrate their mastery of both theoretical and applied aspects of music at the midpoint of their degree programs. Successful completion of these standards is prerequisite to enrollment in upper-division music courses.

#### **Performance (Instrumental and Vocal):**

- 2.0 grade point average in all music courses.
- While enrolled in Music 208, pass the standardized theory exam as prerequisite to upper-division music courses with the following exceptions: 311, 315, 316, 317, 332, 404, 405, 406.
- Audition for admission to 400 level before Division Jury in the semester during which student is registered for his/her sixteenth hour of 200-level study.
- Audition requirements for continuation include 15 minutes of solo repertoire (memorized as required), demonstrating at least two distinct stylistic periods. Students must also demonstrate techniques as mandated by each applied area. See the Undergraduate Music Student Handbook for further details regarding this audition.

#### **Theory and Composition:**

- 2.0 GPA in all music courses.
- While enrolled in Music 208, pass the standardized theory exam as prerequisite to upper-division music courses with the following exceptions: 311, 315, 316, 317, 332, 404, 405, 406.
- Audition on primary instrument for admission to 300 level before applied faculty in semester juries at the end of the fourth semester of 200-level study.
- Audition requirements for continuation include 10 minutes of solo repertoire (memorized as required), demonstrating at least two distinct stylistic periods. Students must also demonstrate techniques as mandated by each applied area

See the Undergraduate Music Student Handbook for further details regarding this audition.

- Written evaluation by theory/composition faculty of aptitude for career in theory/composition submitted to department head and the semester jury panel prior to the audition.

#### **Sacred Music:**

- 2.0 grade point average in all music courses.
- While enrolled in Music 208, pass the standardized theory exam as prerequisite to upper-division music courses with the following exceptions: 311, 315, 316, 317, 332, 340, 404, 405, 406.
- Audition on primary instrument for admission to 300 level before applied faculty in semester juries at the end of the fourth semester of 200-level study.
- Audition requirements for continuation include 10 minutes of solo repertoire (memorized as required), demonstrating at least two distinct stylistic periods. Student must also demonstrate techniques as mandated by each applied area. See the Undergraduate Music Student Handbook for further details regarding this audition.
- Written evaluation by applied faculty of aptitude for a career in sacred music submitted to department head and the semester jury panel prior to the audition.

#### **Music Education: Instrumental or Vocal**

- For graduation, 2.0 grade point average in music courses and 2.0 average in College of Education and Applied Professional Studies courses. For licensure, 2.5 overall average, 2.5 average at UTC, 2.5 average in education courses with no grade lower than a C, and 2.5 average in content area courses with no grade lower than a C.
- Audition on primary instrument for admission to 300 level before applied faculty in semester juries at the end of the fourth semester of 200-level study.
- Audition requirements for continuation include 10 minutes of solo repertoire (memorized as required), demonstrating at least two distinct stylistic periods. Student must also demonstrate techniques as mandated by each applied area. See the Undergraduate Music Student Handbook for further details regarding this audition.
- While enrolled in Music 208, pass the standardized theory exam as prerequisite to upper-division music courses with the following exceptions: 311, 315, 316, 317, 332, 404, 405, 406.
- Pass the Piano Proficiency Exam as prerequisite to Music 321.
- Evaluation by faculty of aptitude for a career in music education via the entrance interview for TEP.

Note: These requirements are in addition to those mandated by the College of Education and Applied Professional Studies.

#### **Theory Exam Requirements:**

Demonstrate through grasp of basic concepts, symbols, and procedures taught in the music theory and ear training sequence. This will include:

- writing and identifying scales, key signatures, modes, intervals, triads, seventh chords, "borrowed" chords;
- correct division of beats/pulses and beaming in various meters;
- the ability to write tonal harmonic progressions in four parts,

using good voice leading;

- The ability to recognize and describe with appropriate terminology the standards of elements of musical form in a brief composition or portion thereof;
- The ability to accurately sing at sight a tonal melody, and to accurately perform a rhythmic passage at sight;
- The ability to complete brief melodic and harmonic dictations.

### Conditional Provision for Theory Exam and Performance Standards

If a student passes the theory exam but does not meet the performance standards, he or she may enroll in upper-division courses on a provisional basis for one semester. At the end of that semester, the student must re-audition and pass the performance standards in order to continue in the degree program.

Conversely, if a student meets the performance standards but fails the theory exam, he or she may enroll in upper-level applied study on a provisional basis for one semester. At the end of that semester, the student must retake and pass the theory exam in order to continue in the degree program.

## MUSIC MINORS

### 4622 - Music Performance

22 hours of music including a core of 14 hours: 105, 106, 315, 316, and 4 hours (4 semesters) of applied instruction at the 200 level or above; at least 3 of the elective hours must be at the 300 level or above with the remainder at the 200 level or above. A maximum of 2 hours of ensemble credit will be accepted. Music 107 and 108 may be substituted for 105 and 106. Minimum 2.0 average in the minor.

### 4624 - Music History

20 hours of music including a core of 14 hours: 105, 106, 315, 316, and 4 hours (4 semesters) of applied instruction; two courses from 411, 412, 413, 414, 415. Class instruction may satisfy the applied music requirement. Music 107 and 108 may be substituted for 105 and 106. Minimum 2.0 average in the minor.

### 4626 - Music Composition

23 hours of music including a core of 14 hours: 105, 106, 315, 316, and 4 hours (4 semesters) of applied instruction; additional requirements to include 103, 104, 205r (1 hour), 305r (4 hours), 370r (2 hours). Class instruction may satisfy the applied music requirements. Music 107 and 108 may be substituted for 105 and 106. Minimum 2.0 average in the minor.

## Performing Organizations (MUS)

*The performing organizations mentioned below are open to University students with sufficient technical ability. Attendance at public performances and rehearsals is required.*

### 020r Chattanooga Singers (1)

Study of music of all periods for large mixed chorus. Rehearsal and extensive performance experience emphasized. Performances in Chattanooga and throughout the world. Every semester.

### 022r Chamber Singers (1)

Study of repertoire for small choruses through rehearsal and performance. Every semester. *Prerequisite: audition.*

### 025r Singing Mocs (1)

Study of styles and techniques appropriate to the performance of music in the popular idiom. Every semester. *Prerequisite: audition.*

### 026r Women's Chorale (1)

A non-auditioned chorus concentrating on a wide variety of music for female voices, music reading ability, and group instruction in healthy singing technique. Public concerts will be presented at the conclusion of each semester.

### 027r Men's Chorus (1)

A non-auditioned chorus concentrating on a wide variety of music for male voices, music reading ability, and group instruction in healthy singing technique. Public concerts will be presented at the conclusion of each semester.

### 028r Choral Union (1)

A non-auditioned chorus for female and male voices and is a combination of Chattanooga Singers and Men's Chorus or Women's Chorale. The chorus meets four days per week concentrating on a wide variety of music for mixed voices, music reading ability, and group instruction in healthy singing technique. Public concerts will be presented at the conclusion of each semester.

### 030r Marching Band (1)

Study of marching band functions and literature through performances at University athletic and other events which could appropriately utilize the participation of a marching musical group. Fall semester. *Prerequisite: audition.*

### 031r Concert Band (1)

Reading, rehearsing, and performing contemporary and traditional band literature. Laboratory organization for instrumental conducting and band arranging classes. Spring semester. *Prerequisite: audition.*

### 035r Wind Ensemble (1)

A select ensemble which rehearses and performs literature for larger Wind Ensembles of all periods with emphasis on music of the 20th century. On demand. *Prerequisite: audition.*

### 036r Jazz Band (1)

Study of types of styles of big band jazz. Emphasis on sight reading, improvisation, and performance. Every semester. *Prerequisite: audition.*

### 040r Opera Workshop (1)

Study of and practical experience in preparation and performance of operas and opera scenes. Attention to requirements of various style periods. Emphasis on development of musical and dramatic skills and stagecraft techniques. Every semester. *Prerequisite: audition.*

### 050r University Orchestra (1)

Rehearsal and performance of selected works from the symphonic repertoire from 1700 to the present. Every semester. *Prerequisite: audition.*

### 053r Cadec Community Orchestra (1)

Development of basic skills in performance while exploring music literature from various stylistic periods. Provides opportunities for inexperienced players to develop greater proficiency in a noncompetitive atmosphere. Every semester. For music majors, no more than 2 hours credit will be counted toward degree requirement.

### 061r Percussion Ensemble (1)

Accompanying, chamber, and other ensemble music. On demand. *Prerequisite: audition.*

## MUSIC COURSES (MUS)

### 100r Seminar (0)

Every semester.

### 103, 104 Ear Training I (1,1)

Studies in sight singing and dictation. Interval, melody, counterpoint, diatonic, and chromatic harmonic materials. 103 fall/104 spring semester. Class hours 2. *Prerequisite: 105 or placement; 103 is prerequisite to 104.*

### 105 Elements of Notation, Dictation, and Sight Singing (2)

Fundamentals of music theory. Designed for those taking music theory without previous experience and as the first course in music theory for music minors. Fall semester. *May not be included as a music elective for music majors.*

**106 Conceptual Overview of Music Theory (2)**

An elements-based approach to the analysis of music from a broad spectrum of styles, genres, and historical periods. A continuation of Music 105 for music minors. Spring semester. *Prerequisite: Music 105.*

**107, 108 Theory I (3,3)**

A comprehensive approach to the study of melody, counterpoint, diatonic and chromatic harmony, basic instrumentation and aural skills. Performance, composition, and analysis of music from all periods and styles. 107 fall/108 spring semester. Class hours 4. *Prerequisite: 105 or placement examination; Music 103 corequisite to Music 107/Music 104 corequisite to Music 108. Music 107 prerequisite to Music 108.*

**110 Music Literature for Children (3)**

Study of music for children; fundamentals of the musical language and basic concepts of music. Repertoire selected from a broad range of styles and media. On demand.

**111 Introduction to Music (3)**

Designed to promote awareness of western art music as a mode of communication and a major component of western culture, this course will examine styles, significant works and prominent musicians in an historical context. The relationships among political, religious, scientific and philosophical issues and styles in western music will be considered.

**121 Piano Class (1)**

For persons without keyboard or music reading experience. Every semester. Class hours 2.

**131, 132 Piano Class (1,1)**

For persons without keyboard experience. 131 fall semester/132 spring semester. Class hours 2. *131 prerequisite to 132.*

**133, 134 Voice Class (1,1)**

For persons without vocal experience. Focus on basic techniques of vocal production in singing: diction; range extension; pitch accuracy. 133 fall/134 spring semester. Class hours 2. *133 prerequisite to 134.*

**135, 136 Guitar Class (1,1)**

For persons without guitar experience. An introduction to the technique and classical literature of the guitar. 135 fall/136 spring semester. Class hours 2. *135 prerequisite to 136.*

**141, 142 Piano Class (1,1)**

141 fall/142 spring. Class hours 2. *Prerequisite: 132 or audition; 141 prerequisite to 142.*

**151r Keyboard Instruction (1)**

Individual instruction for students with limited applied music experience. May not be accepted as applied credit for any music degree program or Performance Music Minor. Every semester. *Prerequisite: audition.*

**153r String Instruction (1)**

Individual instruction for students with limited applied music experience. May not be accepted as applied credit for any music degree program or Performance Music Minor. Every semester. *Prerequisite: audition.*

**157r Woodwind Instruction (1)**

Individual instruction for students with limited applied music experience. May not be accepted as applied credit for any music degree program or Performance Music Minor. Every semester. *Prerequisite: audition.*

**159r Brass Instruction (1)**

Individual instruction for students with limited applied music experience. May not be accepted as applied credit for any music degree program or Performance Music Minor. Every semester. *Prerequisite: audition.*

**161r Percussion Instruction (1)**

Individual instruction for students with limited applied music experience. May not be accepted as applied credit for any music degree program or Performance Music Minor. Every semester. *Prerequisite: audition.*

**199r Special Projects (1-4)**

Individual or group projects. On demand. Maximum credit 4 hours.

**200r Seminar (0)**

Every semester.

**201r Ensemble (1)**

Accompanying, chamber, and other ensemble music. On demand.

**203, 204 Ear Training II (1,1)**

Continued studies in sight singing and dictation. Aural structural analysis, advanced melodic and harmonic studies, twentieth century techniques. 203 fall/204 spring semester. Class hours 2. *Prerequisite: 104; 203 is prerequisite to 204.*

**205r Fundamentals of Music Composition (1)**

Basic skills of music composition designed to prepare promising lower division students for advanced study. Analysis focusing on applied compositional skills. Modeled composition. Spring semester. *Prerequisite: Music 107 or approval of instructor.*

**207, 208 Theory II (3,3)**

A comprehensive approach to the study of musical structure. Continued study of melody, harmony, counterpoint, and aural skills. Introduction to 20th-century compositional techniques. Performance, composition, and analysis. 207 fall; 208 spring semester. Class hours 4. *Prerequisite: 108; corequisite: 203 corequisite to 207, 204 corequisite to 208.*

**209, 210 Keyboard Harmony (1,1)**

The use of harmonic materials at the keyboard. 209 fall/210 spring. *209 prerequisite to 210.*

**212 America's Musical Heritage (3)**

An historical study of musical development in the United States from the Colonial period to the emergence of the native American composer and performer of distinction in the 20th century. On demand.

**213 A History of Rock (3)**

A consideration of the history of rock music in a social context. Fall semester only. *Prerequisite: Music 111 or University Honors 103; open to music majors.*

**217 Diction for Singers (2)**

An introduction to the pronunciation of Italian, German, French, and English based on the International Phonetic Alphabet. Fall semester. *Open to voice majors; others by approval.*

**221 String Methods (2)**

Class instruction of string instruments: tuning and care of instruments; teaching techniques. Violin, viola, cello, and double bass. Fall semester. Class 2 hours, laboratory 1 hour.

**222 Instrumental Methods for Vocal Music Education Majors (2)**

Class instruction of woodwinds, brass, and percussion instruments; tuning and care of instruments; teaching techniques. Flute, single, and double reed instruments; trombone, horn, and piston valve instruments; drum and mallet instruments. Spring semester. Class 2 hours, laboratory 1 hour. *Prerequisite: Vocal Music Education Major status.*

**223 Woodwind Methods (2)**

Class instruction of woodwind instruments; tuning and care of instruments. Teaching techniques. Single reed instruments, double reed instruments, and flute. Fall semester. Class 2 hour, laboratory 1 hour.

**224 Brass Methods (2)**

Class instruction of brass instruments; tuning and care of instruments. Teaching techniques. Piston valve instruments, horn, and trombone. Spring semester. Class 2 hour, laboratory 1 hour.

**225 Percussion Methods (2)**

Class instruction of percussion instruments; tuning and care of instruments; teaching techniques. Spring semester. Class 2 hour, laboratory 1 hour.

**228 Marching Band: Design and Arrangement (2)**

A study of basic arranging and designing principles for inexperienced marching bands. Primary instrumental choirs will be arranged to perform melody, basic accompaniment and rhythmic production. Students will apply construction principles to create a clear visual interpretation of their assigned arrangement.

**230r Orchestra Literature for Elementary & Secondary School Students (1)**

A survey of literature available for teaching orchestral music to students from elementary through secondary levels. On demand. Class hours 2. *Prerequisite: 108 or permission of the instructor. Only one hour credit may apply to a degree.*

**231r Wind and Percussion Literature for Elementary and Secondary Students (1)**

A survey of music literature available for teaching wind and percussion instruments to students from elementary through the twelfth grade. On demand. Class hours 2. *Prerequisite: 108 or approval of instructor. Only one hour credit may apply to degree.*

**232r Choral Literature for Elementary and Secondary School Students (1)**

A survey of literature for choral ensembles from elementary through secondary levels. On demand. Class hours 2. *Prerequisite: 108 or approval of the instructor. Only one hour credit may apply to a degree.*

**251r Keyboard Instruction (1-4)**

Every semester. *Prerequisite: audition.*

**253r String Instruction (1-4)**

Every semester. *Prerequisite: audition.*

**255r Voice Instruction (1-4)**

Every semester. *Prerequisite: audition.*

**257r Woodwind Instruction (1-4)**

Every semester. *Prerequisite: audition.*

**259r Brass Instruction (1-4)**

Every semester. *Prerequisite: audition.*

**261r Percussion Instruction (1-4)**

Every semester. *Prerequisite: audition.*

**300r Seminar (0)**

Every semester.

**302 Counterpoint (2)**

An analytical survey of contrapuntal techniques. Spring semester alternate years. *Prerequisite: 108, or approval of instructor.*

**303 Basic Conducting (2)**

Techniques of the baton, basic score reading and transposition, fundamentals of conducting. Fall semester. *Prerequisite: Music 207, 208.*

**304 Arranging and Composing for Percussion Instruments (1)**

Aspects of composing and arranging peculiar to instruments of the percussion family. Nature of sound as related to specific available instruments, technical problems, and notation practice. Investigation of percussion instruments in combination with other instruments, solo contexts, and in ensembles composed entirely of percussion instruments. On demand. *Prerequisite: 208 and approval of instructor.*

**305r Composition (1-4)**

Beginning composition study concentrating on small groups and short forms. Every semester. *Prerequisites: 208.*

**307 Orchestration (2)**

Scoring for strings woodwinds, brasses and full orchestra. Piano transcriptions from orchestral scores. Fall semester alternate years. *Prerequisite: 208.*

**310 Choral Conducting (2)**

Designed to teach the student to train choral groups, read choral scores, and conduct effective rehearsals; basic patterns for choral and orchestral conducting, interpretation and building of repertoire of both secular and sacred choral composition. Actual conducting of works of all periods with and without instrumental accompaniment. Spring semester. *Prerequisites: 207, 208, 303.*

**311 Musics of the World (3)**

An introduction to the folk and ethnic music of various world cultures. Consideration of how musical styles relate to social, cultural and aesthetic practices and attitudes. Spring semester. *May be registered as Anthropology 311 or Humanities 311.*

**315, 316 History of Music (3, 3)**

A general survey of the history of music in western civilization. 315 fall/316 spring semester. *Prerequisite: 106 or 108.*

**317 Survey of Jazz (3)**

An introductory survey course in jazz from its ethnic origins, through its chronological development, to its current styles. Emphasis placed on the relationship of the music to the individuals who create this form of human expression. Every semester. *Prerequisite: English 122*

**321 Elementary School Music Methods, Materials, and Observation (3)**

A study of music teaching-learning methods and strategies. Basic concepts of musical organization, musical skills, and literature for the classroom. Fall semester. *Prerequisite: Piano Proficiency Exam*

**322 Music Education in Early Childhood (3)**

Methods and materials designed to involve the infant and young child in musical experiences as an outgrowth of play. Developmental paths to music making and learning explored through informal and formal settings. Activities including music and movement, rhythmic speech, song, imitation and improvisation, music-drama, and music pictures. On demand.

**325 Band Organization and Management (2)**

The techniques used in the organization, administration, and preparation of school bands. The selection, care, and repair of materials, instruments, and other equipment. Fall semester.

**328 Instrumental Conducting (2)**

First semester: includes techniques of the baton; basic score reading; fundamentals of conducting. Second semester: includes style, nuances, musical interpretations, advanced score reading, and actual band conducting. Spring semester. *Prerequisites 303.*

**330, 331 Survey of Piano Repertoire (2,2)**

This course consists of a basic survey of the piano repertoire written by major composers from different stylistic periods. *Prerequisites: Music 208.*

**332 Piano Pedagogy (2)**

Piano methods and materials. For advanced students planning to teach piano. Fall semester alternate years.

**333 Vocal Pedagogy (2)**

A comparative study of the major concepts in current vocal training for soloist, choral group, and voice class; analysis of corrective procedure for vocal problems; elementary study of vocal anatomy, vocal acoustics, and the psychology of singing. Spring semester.

**334 Choral Arranging (2)**

The study of the methods, materials, techniques of arranging and adapting choral music for elementary, secondary, and adult voices with attention to vocal ranges, score arrangement, developmental and psychological considerations, and musical style. *Prerequisite: Music 207, 208.*

**336 Choral Methods (2)**

A study of techniques used in the recruiting, training and administration of secondary school choral ensembles. Special emphasis on choosing literature appropriate for musical growth and vocal development in young singers. *Prerequisite: Music 303.*

**351r Keyboard Instruction (1-4)**

Every semester. *Prerequisite: 4 semesters of 251r and successful audition for the semes-*

ter jury.

### 353r String Instruction (1-4)

Every semester. *Prerequisite: 4 semesters of 253r and successful audition for the semester jury.*

### 355r Voice Instruction (1-4)

Every semester. *Prerequisite: 4 semesters of 255r and successful audition for the semester jury.*

### 357r Woodwind Instruction (1-4)

Every semester. *Prerequisite: 4 semesters of 257r and successful audition for the semester jury.*

### 359r Brass Instruction (1-4)

Every semester. *Prerequisite: 4 semesters of 259r and successful audition for the semester jury.*

### 361r Percussion Instruction (1-4)

Every semester. *Prerequisite: 4 semesters of 261r and successful audition for the semester jury.*

### 370r Electronic Music (2)

An introduction to and continuing experience with the aesthetics, analysis, and composition of electronic music. Tape recorder terminology; tape manipulation techniques; synthesizer technique; electronics; acoustics; composition and analysis. For music majors. Spring semester. *Prerequisite: 132, 208, or approval of instructor.*

### 397 Music, the Arts, and Ideas (3)

A comparison of musics and musical values in Africa, Indonesia, India, Europe, and among various indigenous peoples; an exploration of the role of art in various societies and other aesthetic issues relating to the arts. Essay exams, papers. *May be registered as Humanities 397.*

### 400r Seminar (0)

Every semester.

### 401r Composition II (1-4)

Advanced composition study. Every semester. *Prerequisites: 305, 307.*

### 404 Liturgics and Service Structure (2)

History, content, theology of worship; similarities in Jewish and Christian worship and liturgy; application of liturgical principles to various types of worship service; service playing. On demand. *Open to music majors; others by approval.*

### 405 Ministry of Music (2)

Philosophy of music in the church; the role of music in worship; the organization of a church music program; staff relations. On demand. *Open to music majors; others by approval.*

### 406 Hymnology (2)

Historical development of the Christian hymn; criteria for use of hymns and hymn tunes; the composition of hymns. On demand. *Open to music majors; others by approval.*

### 407, 408 Advanced Analysis (2,2)

Compositional, analytic techniques, and formal procedures, with emphasis on the 20th century. 407 fall/408 spring semester alternate years. *Prerequisite: 208 or approval of instructor; 407 prerequisite to 408.*

### 409, 410 Musical Styles (2,2)

Literature of the various periods of music history, including characteristic features of musical style. 409 fall/410 spring alternate years. *Prerequisite: approval of instructor.*

### 411 Music Before 1600 (3)

A study of works, both monodic and polyphonic, characteristic of European music before 1600. On demand. *Prerequisites: 208 or approval of instructor.*

### 412 Music from 1600 to 1750 (3)

A study of works characteristic of the period and illustrative of musical trends in

the era. On demand. *Prerequisites: 208 or approval of instructor.*

### 413 Music from 1725 to 1825 (3)

A study of works characteristic of the period and illustrative of musical trends in the era. Extensive examination of representative scores. On demand. *Prerequisites: 208 or approval of instructor.*

### 414 Nineteenth Century Music (3)

A study of works characteristic of the period and illustrative of musical trends in the era. On demand. *Prerequisites: 208 or approval of instructor.*

### 415 Twentieth-Century Music (3)

A study of works characteristic of the period and illustrative of musical trends in the era. On demand. *Prerequisites: 208 or approval of instructor.*

### 416 Symphonic Literature (3)

A survey of the development of symphonic literature, in particular the development of the symphony. *Prerequisites: Music 208 and 316 or approval of department head.*

### 426 Jazz Arranging (2)

Fundamentals of composing and arranging for the contemporary jazz ensemble. On demand. *Prerequisites: 208, 307 or 326, or approval of instructor.*

### 430 Kodály Level I (3)

An introduction to the Kodály methods of music education. Focus on solfege, ear training, conducting, folk song analysis and teaching methodology in grades K-1. *Prerequisite: approval of instructor.*

### 432 Teaching Strategies and Evaluation in Secondary School Music (3)

Theories and practices in secondary school music, attention to the exceptional student, curricular developments in music education, evaluation procedures appropriate to music education. Fall semester. *Prerequisite: admission to teacher education program. May not be used for graduate credit.*

### 451r Keyboard Instruction (1-4)

Every semester. *Prerequisite: 16 hours of 251r and successful audition for the semester jury.*

### 453r String Instruction (1-4)

Every semester. *Prerequisite: 16 hours of 253r and successful audition for the semester jury.*

### 455r Voice Instruction (1-4)

Every semester. *Prerequisite: 16 hours of 255r and successful audition for the semester jury.*

### 457r Woodwind Instruction (1-4)

Every semester. *Prerequisite: 16 hours of 257r and successful audition for the semester jury.*

### 459r Brass Instruction (1-4)

Every semester. *Prerequisite: 16 hours of 259r and successful audition for the semester jury.*

### 461r Percussion Instruction (1-4)

Every semester. *Prerequisite: 16 hours of 261r and successful audition for the semester jury.*

### 465 Practicum in Music Technology (3)

Focuses on practical skills in using professional-level software for music notation, sequencing and computer-assisted instruction (CAI); in setting up and using a MIDI/computer workstation; and in basic audio recording and sound reinforcement. *Prerequisite: Music 208 or equivalent.*

### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

### 497r Research (1-4)

On demand. *Prerequisite: approval of department head.*

### 498r Individual Studies (1-4)



On demand. *Prerequisite: approval of department head.*

#### 499r Group Studies (1-4)

On demand. *Prerequisite: approval of department head.*

## Nursing

See College of Health, Education and Professional Studies, School of Nursing, page 166.

# Philosophy and Religion

Professor William Harman, *Head*

The Department of Philosophy and Religion offers a 30-hour undergraduate major (B.A.) with separate concentrations in philosophy, religious studies, and philosophy and religion; and an 18-hour minor with separate concentrations in philosophy and religious studies. Through its curricular and extracurricular programs the department seeks to expose the student to a wide variety of influential philosophical and religious thinkers in both Western and Asian cultures.

The department sponsors a student organization, the Philosophy Club, which schedules a program of speakers throughout the year.

## Philosophy and Religion: Philosophy, Religious Studies, and Combined Concentrations (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities (other than Philosophy and Religion) and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language

**Completion of a minor** with a minimum 2.0 grade point average

**Complete one of the following concentrations:**

### 1722 - Philosophy

30 hours philosophy beyond 100 level including Philosophy 211, 351, 353, 498r; one course in ethics, metaphysics, or epistemology.  
2.0 average in all philosophy courses

### 1723 - Religious Studies

Total of 30 hours including Philosophy 351 and 353; Philosophy 498r or Religion 498r; and also including 21 hours religion with two courses chosen from each of the following groups:  
Religion 211, 314, 315, 320, 321, 322, 417, 493r  
Religion 318, 334, 337, 351, 362, 366, 369, 467, 484, 492r  
2.0 average in all philosophy and religion courses

## 1721 - Combined: Philosophy and Religion

Total of 30 hours

15 hours philosophy beyond 100 level including 351, 353, 498r

15 hours religion including two courses from 318, 334, 337, 351, 362, 366, 369, 467, 484, 492r

2.0 average in all philosophy and religion courses

One course outside the department may count toward major with any concentration if approved by department head.

All majors in Philosophy and Religion are required to complete a senior project under the supervision of a member of the faculty. Students register for this project by taking at least three hours of Philosophy 498r or Religion 498r. Completion of a Departmental Honors project will also satisfy this requirement.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## PHILOSOPHY AND RELIGION MINORS

### 4640 - Philosophy

18 hours of philosophy beyond 100 level including Philosophy 211, 351, 353; 9 of these hours must be earned in courses at 300 level or above.

Minimum 2.0 average in the minor.

### 4650 - Religious Studies

Total of 18 hours including Philosophy 333 or 353 and 15 hours religion, with at least one course from each of the following groups:

Religion 211, 314, 315, 320, 321, 322, 417, 493r

Religion 318, 334, 337, 351, 362, 366, 369, 467, 484, 492r

Nine of the 18 hours must be earned in courses at 300 level or above.

Minimum 2.0 average in the minor.

## PHILOSOPHY COURSES (PHIL)

### 101 Western Philosophical Traditions I (3)

A survey of Western philosophical thought from Antiquity to the Renaissance. An exploration and elucidation of questions concerning the human condition and values. *Pre or Corequisite: English 121.*

### 102 Western Philosophical Traditions II (3)

A survey of Western philosophical thought from the Renaissance to the 20th Century. An exploration and elucidation of questions concerning the human condition and values. *Prerequisite: English 121; Pre or Corequisite: English 122.*

### 106 Philosophy and Human Nature (3)

Interpretations of human nature and analyses of the human condition from Plato to Russell and others in the 20th century. Lectures and discussions aimed at clarification of present meanings and values. Every semester.

### 113 Western Humanities I (3)

An historical approach to the pivotal ideas, systems of thought, and creations of the Western world from antiquity to approximately 1600 C.E. Emphasis on philosophical and religious themes. *Corequisite: English 121.*

### 115 Western Humanities II (3)

An historical approach to the pivotal ideas, systems of thought, and creations of the Western world from approximately 1600 C.E. to the present. Emphasis on philosophical and religious themes. *Prerequisites: English 121. Corequisite: English 122.*

### 199r Special Projects (1-4)

Individual or group projects. On demand. *Maximum credit 4 hours.*

### 201 Introduction to Philosophy (3)

An approach to the discipline through the perennial and changing issues of the field: freedom and determinism, the real and our knowledge of it, cosmological ideas, God, meaning, and moral values. Every semester.

### 211 Logic, Language, and Evidence (3)

An examination of accepted forms of reasoning and of the varied ways in which language functions; fallacy, definition, metaphor, and theories of meaning; examples from such areas as science, law, politics, theology, and philosophy; classical and symbolic logic; deductive techniques; induction and deduction contrasted. Fall semester.

### 221 Introduction to Ethics (3)

An examination of classical and modern theories of the foundations of morality. Selections from such philosophers as Plato, Aristotle, Hobbes, Butler, Hume, Kant, Bentham, Sidgwick, and Mill. Every semester.

### 322 Ethical Theory (3)

A critical analysis of contemporary ethical theories. Emphasis on the writings of philosophers such as Moore, Stevenson, Dewey, Rawls, Baier, Hare, and Searle. Alternate years.

### 325 Biomedical Ethics (3)

An examination of moral and ethical issues that arise in both the practice of medicine and in medical research.

### 333 Philosophy of Religion (3)

A philosophical examination of religion, including traditional and modern arguments for the existence and nature of God, the nature of religious experience and belief, and the functions of religious language. Alternate years.

### 336 Aesthetics (3)

A study of the nature and value of art, of human creativity, and of aesthetic response. Close attention to theoretical analysis and to the interpretation and critique of important artistic achievements. On demand.

### 341 Metaphysics (3)

A study of classical and contemporary approaches to the question of what is ultimately real; consideration of modern challenges to the legitimacy of metaphysics. Alternate years.

### 345 Epistemology (3)

A critical examination of the nature of knowledge and the philosophical problems concerning skepticism; knowledge of the self, material objects, other minds; the past, present, and future; universal and necessary truth. Selections from both historical and recent writings. Alternate years.

### 348 Philosophy of Science (3)

An introduction to philosophical problems in the natural and social sciences: the nature of explanation, induction, evidence, probability, verification, causation; the role of observation; the relations among the sciences. Spring semester alternate years.

### 351 History of Ancient Philosophy (3)

Selections from the pre-Socratic through the late Greco-Roman writers, including Plotinus. Emphasis on Plato and Aristotle. Fall semester.

### 353 History of Modern Philosophy (3)

Rationalism and empiricism as developed by leading thinkers; selections from chief representatives from Hobbes and Descartes through Kant. Spring semester.

### 360 American Philosophy (3)

Earlier American thought in its reaction to European movements; the emergence of a genuinely American philosophy. Emphasis on James, Pierce, Santayana, Royce, Dewey, and Whitehead. Alternate years.

### 364 Existentialism and Phenomenology (3)

Presentations on the major figures and themes of this movement; discussions of selected passages from Kierkegaard, Nietzsche, Husserl, Heidegger, Sartre, and Ricoeur. Alternate years.

### 425 Ethics and the Professions (3)

An examination of ethical issues and principles related to problems and standards in the professions. Special attention to professional codes and case studies in relation to traditional and contemporary moral philosophy. Designed as a general course for students not majoring in philosophy and religion. Fall semester.

### 442 Philosophy of Mind (3)

A history of the philosophy of mind, from Aristotle and Descartes through the twentieth century. Emphasis on current debates, with reference to relevant scientific discoveries. Alternate years.

### 481r Interdisciplinary Seminar (3)

Critical inquiry into the most comprehensive questions raised by particular disciplines; reading and discussion of significant primary sources from scholars in the special field and philosophers. Two faculty members. On demand.

### 483 Feminist Theory (3)

A history of feminist theory from the eighteenth century to the present. Extensive reading, papers. *Maybe registered as Humanities or Women's Studies 483. Credit allowed in only one of the three courses.*

### 491r Studies in Philosophy (3)

A seminar or tutorial for the intensive consideration of one philosophical problem, movement, or figure. On demand.

### 495r Departmental Honors

**(1-3 hours per term, 4 hours for the two terms)**

Every semester. See "Departmental Honors," page 39.

### 497r Research (1-4)

On demand. *Prerequisite: approval of department head.*

### 498r Individual Studies (1-4)

Must be taken for at least three hours in one semester by all majors. Every semester. *Prerequisite: approval of department head.*

### 499r Group Studies (1-4)

On demand. *Prerequisite: approval of department head.*

## RELIGION COURSES (REL)

### 103 Introduction to the Study of Religion (3)

Consideration of the various elements of religion and the methods for studying them; attention to beliefs, world-views, and sacred literature; rituals, myths, symbols; religious communities and organizations; types of religious experience. Every semester.

### 110 Introduction to Western Religions (3)

An introduction to the major religious traditions emerging in Western cultures, with emphasis on Judaism, Christianity, and Islam.

### 199r Special Projects (1-4)

Individual or group projects. On demand. Maximum credit 4 hours. *Prerequisite: approval of department head.*

### 210 Western Christianity Since 1000 (3)

See History 210.

### 211 Religions of the East (3)

An introduction to major world religious traditions of Asia, with emphasis on Hinduism, Buddhism, and Confucianism. Every semester.

### 213 A History of Judaism (3)

Examination of enduring themes or concepts in Jewish tradition from antiquity to the modern era. Particular attention to the emergence of normative Judaism and its later challengers: Hasidism, Reform, and Zionism. Fall semester.

### 221, 222 Biblical Literature (3,3)

First semester: the Old Testament and the history and religion of Israel against the background of the ancient Near East. Second semester: the New Testament documents in relation to Judaism and the environment of the Hellenistic world. 221 fall semester/222 spring semester.

### 236 Religion in American Life (3)

Attention to distinctly American phenomena, with the intention of assessing the

present role and status of religion; consideration of such topics as separation of church and state, revivalism, the influence of immigration, sects, and cults. Fall semester.

### 314 Primitive Religion (3)

The place of religion in the social and cultural settings of selected peoples as evidenced through magic, myth, totemism, fetish, sacrifice, shamanism, and initiatory rites; an attempt to delineate the common elements of primitive religion. On demand.

### 315 Islam (3)

An examination of the history, teachings and practices of Islam. Attention will also be paid to the interaction between Islam and the West, and to the various issues facing Islam in the modern world.

### 318 Modern Judaism (3)

Exploration of religious, social, and political developments in modern Judaism, including the appearance of Zionism, the impact of the Holocaust, and efforts to overcome the tension between Zionism and the religious culture of contemporary Jews. Alternate years.

### 320 Religions of India (3)

Examination of the conceptual and historical development of religions on the Indian subcontinent. Attention will also be paid to the interaction among religions of India and their relationships to Indian culture. Alternate years.

### 321 Religions of China (3)

Examination of the conceptual and historical development of religions in China. Attention will also be paid to the interaction among religions of China, the impact of Indian religions and culture on China, and the relationship of religion to Chinese culture. Alternate years.

### 322 Religions of Japan (3)

Examination of the conceptual and historical development of religions in Japan. Attention will also be paid to the interaction among religions of Japan, the impact of continental Asian religions and culture on Japan, and the relationships of religion to Japanese culture. Alternate years.

### 334 Religion in Southern Culture (3)

Examination of the role of religion in Southern culture, past and present. Attention to the evangelical influence, African-American religion, mountain religion, Southern-based sects, the Pentecostal experience, and the cultural impact of religion in the South. Alternate years.

### 337 Interpretations of Religion (3)

An examination of ways in which religious belief and practice may be understood; sympathetic and opposing views drawn from several fields and represented by such authors as Feuerbach, Freud, James, Malinowski, Berger, Levi-Strauss, Yinger, Fromm, and N.O. Brown. Alternate years.

### 351 Early Christian Thought (3)

The development of central issues in Christian thought in the first millennium, with an emphasis on how these emerged from a historical context as responses both to the demands of faith and to the social and intellectual concerns of the time. Consideration of such figures as Tertullian, Arius, Augustine, Gregory the Great, and Bede. Alternate years.

### 362 Modern Christian Thought (3)

Selected movements and figures that have shaped the Christian theological tradition in the nineteenth and twentieth centuries. Alternate years.

### 366 Goddess Traditions (3)

A cross-cultural survey of major goddess traditions of wide geographic distribution, this course addresses implications of what it means to talk about deities using female terminologies and associations. The seminar format involves reading, discussion, writing, and original research. *May be registered as WSTU 366. Credit not allowed in both Religion 366 and Women's Studies 366.*

### 369 Satanism, Witchcraft, and Spirit Possession (3)

"Witchcraft" and "Satanism" refer to occult bodies of traditional knowledge enabling practitioners to manipulate and/or respond to postulated superhuman forces. "Spirit possession" refers to perceived invasion of the human body by benign or malign supernatural forces. This course seeks to understand the cross-cultural range of these reported phenomena and of the conditions under which

these reports occur.

### 417 Mysticism East and West (3)

The place of mysticism in the Eastern and Western religious traditions; discussion of the writings of major historical and contemporary mystics. On demand.

### 467 Contemporary Religious Issues (3)

Analysis of selected issues, such as church-state relations, fundamentalism, and debates over abortion, that are central to contemporary religious life. Primary attention to the American scene and some cross-cultural comparisons. Alternate years.

### 470 Psychology of Religion (3)

Analysis of empirical data and psychological theories involving religious beliefs, practices, and experiences. Every semester. *Prerequisites: 6 units psychology or philosophy-religion. May be registered as Psychology 470.*

### 484 Holocaust and Genocide (3)

Examination of the Holocaust, the state-sponsored effort of the Nazi regime to destroy the Jewish people between 1933 and 1945, and the relationship between the Holocaust and the more general category of genocide. Consideration of the causes of genocide and the Holocaust and their persistent presence in contemporary society. Alternate years.

### 491r Studies in Religion (3)

A seminar or tutorial for the intensive consideration of one problem, movement, or figure in the field of religion. On demand.

### 492r Studies in Western Religious Thought (3)

A seminar or tutorial for the intensive consideration of one problem, movement, or figure in Western religious thought. On demand.

### 493r Studies in the History of Religions (3)

A seminar or tutorial for the intensive consideration of one problem, movement, or figure in the history of religions. On demand.

### 495r Departmental Honors

**(1-3 hours per term, 4 hours for the two terms)**

Every semester. See "Departmental Honors," page 39.

### 497r Research (1-4)

On demand. *Prerequisite: approval of department head.*

### 498r Individual Studies (1-4)

Must be taken for at least 3 hours in one semester by all majors. Every semester. *Prerequisite: approval of department head.*

### 499r Group Studies (1-4)

On demand. *Prerequisite: approval of department head.*

## Physics, Geology, and Astronomy

*Professor Habte Churnet, Head*

The Department of Physics, Geology, and Astronomy offers two degree programs for its majors: the B.S. in physics, and the B.S. in geology. The department also contributes to programs leading to degrees in other sciences, engineering, and professional areas. In addition, the department offers minors in geology and physics.

The geology program emphasizes hands-on experience. Many courses are supported by field examination of sedimentary, metamorphic, and igneous rocks.

The geology curriculum is designed to train students to pursue graduate degrees or enter the work force, particularly in the area

of environmental geology.

As a fundamental science, physics is required for the education of students in many disciplines. The physics program emphasizes mathematics, but to accommodate students in less quantitative disciplines the department also offers introductory algebra-based physics. Physics majors are qualified to seek opportunities in graduate school, education, government, and industrial research.

The astronomy program is augmented by specialized equipment for astrophotography. The off-campus UTC Clarence T. Jones Observatory provides astronomy presentations to the community at large.

The department offers several introductory courses which fulfill the natural science requirement with lectures and corresponding laboratories: Physics 103/183, 104/184, 230/280, 231/281, Geology 111/181, 112/182, 116, General Science 111/181, and Astronomy 101/181, 102/182 all contain a strong laboratory emphasis, and are excellent choices to increase one's appreciation of nature and the physical universe. Geology 116, 225, General Science 115, and Astronomy 101 are approved non-lab courses in Natural Science.

## Geology (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours; approved related courses below will apply)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

### Major and Related Courses

English 278

Geology 111/181, 112/182, 303, 341, 342, 451, 480, 490

Any two of the following sequences: Biology 121 and 122, Chemistry 121/123 and 122/124, Physics 103/183 and 104/184, or Physics 230/280 and 231/281.

Recommended: Astronomy 101/181 or 102/182, Environmental Science 150, Math 161/162, Physics 230/280, 231/281, 232/282 and Chemistry 341, 351/353.

2.0 average in all geology courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

Each geology major must also complete the requirements for either the Geology option or the Environmental Geology option.

### 2380 - Geology

Geology 321, 452, plus 7 hours of geology electives, including at least one course at the 400-level; Mathematics 151/152.

### 2382 - Environmental Geology

Geology 123, 445, plus 8 hours of geology electives, including at least one course at the 400-level; Mathematics 131 or 151/152.

### Field Work

Geology majors are encouraged to enroll in a field geology course (field camp) during the summer following the junior or senior year. In the latter case, graduation will be postponed until August and the requirement that the last 30 hours be completed at UTC will be waived. It is still required, however, that at least 30 hours be completed at UTC.

### Graduate Study Preparation

Most graduate schools in geology require a minimum of 1 year of calculus, 1 year of calculus-based physics, and a good background in courses from biology, chemistry, and computer science, and a geology field camp. Therefore, students intending to pursue a graduate degree in geology should take those courses that will best prepare them for the graduate program of their choice. It is strongly recommended that the prospective graduate student also take Geology 497r.

Mathematics 106, 144, and 145 may be recommended to precede Mathematics 151/152, depending on preparation of the individual student. Students taking the Environmental Geology option may substitute Mathematics 136 for Mathematics 151/152.

Mathematics 106 and 131 may be recommended to precede Mathematics 136, depending on the preparation of the individual student.

## GEOLOGY MINOR

18 hours of geology including 111/181, 112/182, and 407. At least 8 hours 300 level or above.

Minimum 2.0 average in all geology courses.

## GEOLOGY COURSES (GEOL)

### 100 Earth Science (4)

Interdisciplinary overview of the planet Earth, including the origin and evolution of its physical features, the role of modern technology in refining plate tectonic theory, and a look toward Earth's future. On demand. Lecture 3 hours, laboratory 2 hours.

### 108 Geomorphology (3)

Scientific account of the general configuration of Earth's surface and the evolution of land forms. On demand. Lecture 3 hours.

### 111 Physical Geology (3)

Introduction to geology with emphasis on the origin of Earth, geological materials (minerals, rocks), geological processes and events (mountain building, erosion, earthquakes, volcanic activity) and geological features (oceans, land forms). Field trips. Every semester. *Prerequisite:* math placement level 20 or Mathematics 106. *Corequisite:* Geology 181 laboratory, or approval of department head.

### 112 Historical Geology (3)

Geologic history of Earth, with emphasis on geologic time and the evolution of life as gleaned from the fossil record. Field trips. Every semester. *Prerequisite:* Geology 111 or approval of the instructor. *Corequisite:* Geology 182 laboratory, or approval of the head of the department.

### 116 Current Geological Perspectives of Earth (3)

Geological perspectives of Earth and the ways in which it enhances and limits our life styles, including natural disasters and basic issues of sustainability. Promotes an understanding of Earth and the insights necessary to making conscientious environmental decisions. Specific topics may vary in keeping with current issues. On demand. *Prerequisite:* math placement level 20 or equivalent college math course. *Cannot be used to satisfy Geology major requirements.*

### 123 Environmental Geology (4)

Natural, mining, and industry-related environmental hazards, including interactions of water, rock, and air, and the attempts of humanity to remedy these problems. On demand. Lecture 3 hours, laboratory 1 hour.

### 181 Physical Geology Laboratory (1)

Laboratory to accompany Geology 111. Laboratory studies of minerals and rocks, topographic maps and geologic process and events. Two hours per week. Every

semester. Corequisite: Geology 111 or approval of the head of the department head.

### 182 Historic Geology Laboratory (1)

Laboratory to accompany Geology 112. Laboratory studies of rocks, geologic maps and geologic structures, stratigraphic data sets, selected fossil and recent specimens of major taxonomic groups of organisms. Every semester. Two hours per week. *Corequisite: Geology 112, or approval of the head of the department.*

### 199r Special Projects (1-4)

Individual or group projects. On demand. Prerequisites: receipt of an acceptable proposal, and approval of the instructor and department head. *Graded on a satisfactory/no credit basis. Cumulative limit of 4 hours.*

### 225 Oceanography (3)

Study of the oceans, including chemical and physical properties of sea water, patterns of seawater circulation, life zones, origin and physiography of ocean basins, and mineral and energy resources of the oceans. On demand. Lecture 3 hours. *May be registered as Environmental Science 225.*

### 226 Oceanography Laboratory (1)

Laboratory exercises in oceanography. On demand. *Corequisite: Geology 225.*

### 303 Sedimentary Rocks and Stratigraphy (4)

Sedimentary rocks and stratigraphic correlation with emphasis on the classic stratigraphy of eastern North America, the facies concept, and paleogeographic reconstruction of the continents. Field trips. Fall semester, alternate years. Lecture 3 hours, laboratory 3 hours. *Prerequisite: Geology 112/182.*

### 307 Geology of Tennessee (3)

Geologic resources, structure, and history of Tennessee and adjacent areas. Lecture and field trips. On demand. *Prerequisite: a previous course in geology.*

### 321 Paleontology (4)

Study of animals that are preserved in the fossil record, particularly taxonomy and population, interpretation of faunal assemblages, and the concept of biostratigraphy. Laboratory exercises emphasize morphology and time ranges of major fossil groups. Field trips. Spring semester, alternate years. Lecture 3 hours, laboratory 3 hours. *Prerequisite: Geology 112/182.*

### 341 Mineralogy (4)

Crystallography, descriptive and determinative mineralogy, mineral chemistry, and methods of chemical analysis. Fall semester. Lecture 3 hours, laboratory 3 hours. *Prerequisites: Geology 111/181, Chemistry 121/123.*

### 342 Petrology (4)

In-depth study of igneous and metamorphic rocks, including classification, genesis, and evolution. Field trips. Spring semester. Lecture 3 hours, laboratory 3 hours. *Prerequisite: Geology 341.*

### 330 Sedimentation (4)

Interpretation of ancient depositional environments from outcrop observations, well logs, and modern-day analogs. Extensive field work. On demand. Lecture 3 hours, laboratory 3 hours. *Prerequisite: Geology 303 or approval of the instructor.*

### 405 Principles of Geochemistry (4)

Origin, distribution, and behavior of chemical elements on Earth. Applications of chemistry to geologic problems. On demand. Lecture 3 hours, laboratory and recitation 2 hours. *Prerequisites: Geology 111/181 and 1 year of college chemistry. Calculus level math is highly recommended.*

### 406 Lithology: Study of Rocks (4)

Identification and study of common rocks and their plate tectonic environments. Lecture 3 hours, laboratory 2 hours. *Prerequisite: Approval of instructor.*

### 407 The Dynamic Earth (3)

History, theory, and application of plate tectonics models to explain the dynamic character of the Earth. On demand. Lecture 3 hours. *Prerequisite: Geology 111/181 or approval of instructor.*

### 431 Sedimentary Petrology (3)

In -depth study of sedimentary rocks, including genesis and classification of clastic and chemical varieties. Field work. On demand. Variable lecture and laboratory time dependent on topic. *Prerequisite: Geology 330.*

### 436 Fossil Fuels (3)

Stratigraphic and sedimentological study of fossil-fuel deposits and the scientific basis for fossil-fuel exploration, including interpretation of gamma-ray well logs and preparation of panel diagrams, structure contour maps and isopach maps. On demand. *Prerequisite: Geology 111/181.*

### 442 X-Ray Diffraction Methods (1)

Theory and use of X-ray diffraction to identify and characterize minerals. Powder diffraction methods are emphasized. Fall Semester. *Lecture 1 hour. Pre or Corequisite: Geology 341 or approval of instructor.*

### 445 Hydrology (3)

Occurrence and behavior of water in the geologic environment, including drainage systems, erosional and depositional processes, causes and controls of flooding, groundwater systems, and water quality problems. Field work. On demand. *Prerequisites: Geology 111/181 and Chemistry 121/123.*

### 450 Economic Geology (4)

Origin, distribution, and classification of mineral deposits found in igneous, sedimentary, and metamorphic rocks with an introduction to methods of exploration and mining. On demand. Lecture 3 hours, laboratory 3 hours. *Prerequisites: Geology 342; Chemistry 122/124.*

### 451 Structural Geology (4)

Theory and principles of rock deformation, description and classification of common geologic structures, and laboratory methods to solve structural problems. Field trips. Fall semester, alternate years. Lecture 3 hours, laboratory 3 hours. *Prerequisite: Geology 342.*

### 452 Field Methods in Structural Geology (4)

Methods of gathering data in the field and interpretation of field relationships, as necessary to geologic mapping and analysis of geologic structures. Extensive field work. Spring semester, alternate years. . Lecture 3 hours , laboratory 3 hours. *Prerequisite: Geology 451.*

### 454 Geologic Mapping (3)

Mapping of lithology and structural features in sedimentary and crystalline rocks. Extensive field work. On demand. *Prerequisites: Environmental Science 340 or Geology 352 and approval of the instructor.*

### 474 Water Quality Survey (3)

Concepts of water quality, including sampling methods, units of concentration, and simple analytical procedures. Concepts are augmented by field and laboratory studies of ground and surface water. Field work. On demand. *Prerequisites: Geology 111/181 or 123; Chemistry 121/123, 122 /124; senior standing, and approval of the instructor. Chemistry 351/353 and Geology 341 are recommended.*

### 480 Geology Seminar (1)

Seminar and discussion of topics of current interest in the earth sciences. Student presentations required. Spring semester. *Prerequisite: Upper level or graduate standing.*

### 490 Senior Seminar (2)

Culminating senior experience giving students an opportunity to design and conduct research related to geologic problems. Spring semester. *Prerequisites: Geology 480 and approval of the instructor.*

### 495r Departmental Honors

#### (1-3 hours per term, 4 hours for the two terms)

On demand. Graded on a satisfactory/no credit basis. See "Departmental Honors," page 39.

### 496r Geology Field Experience (1-4)

Participation in the examination of the geology of a region based on a department-sponsored geologic expedition. Pre and post-trip written reports are required. On demand. *Prerequisites: introductory course in the natural sciences, and approval of the instructor.*

### 497r Research (1-4)

On demand. Prerequisites: receipt of acceptable research proposal, and approval

of the instructor and department head. *Graded on a satisfactory/no credit basis. Cumulative limit of 4 hours.*

#### 498r Individual Studies (1-4)

On demand. Consent of instructor, receipt of an acceptable proposal, and approval of the department head. *Graded on a satisfactory/no credit basis. Cumulative limit of 4 hours.*

#### 499r Group Studies (1-4)

On demand. *Approval of instructor. Cumulative limit of 4 hours.*

## 2732 - Physics (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours; approved related courses below will apply)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines. (6 hours)

#### Major and Related Courses

English 278

One approved oral communications course

Mathematics 151/152, 161/162, 212, 245, 255; Chemistry 121/123, 122/124; Physics 230/280, 231/281, 232/282, 341, 342, 411; 6 hours from Physics 381r, 382r, 481r, and 482r

27 additional hours from physics, astronomy, chemistry, engineering, or mathematics at the 200 level or above or from geology and biology or other fields with prior approval by the department.

Recommended: Physics 303, 307, 310, 412, and 414r are recommended for students who plan on graduate study in physics /astronomy.

Minimum of 39 hours of 300 and 400 level courses, which includes a minimum of 30 hours in physics and/or astronomy at the 300 and 400 level.

2.0 average in all physics courses.

Electives to complete 120 hours.

See page 35 for additional information.

## 2641 - PHYSICS MINOR

Required courses: Physics 230/280 (or Engineering 103 and 104), Physics 231/281, Physics 232/282 (or 104/184).

Elective courses: A planned program of at least 12 hours of physics at the 300-400 level selected with the prior approval of the department.

Minimum 2.0 average in the minor.

### ASTRONOMY COURSES (ASTR)

#### 101 Introduction to Astronomy - The Solar System (3)

Descriptive and conceptual introduction to the nature and origin of the solar system. Topics include models of the night sky, natural laws describing celestial objects and light, telescopes, the Earth-Moon system, planets and satellites, and the Sun. Spring semester. *Prerequisite: UTC Math Placement level 20 or Math 106 equivalent. Recommended laboratory: Astronomy 181.*

#### 102 Introduction to Astronomy - Stars to Galaxies (3)

Nature of stars and galaxies; evolution and structure of the observable universe with emphasis on the experimental foundations of the science. Fall semester. *Prerequisite: two years of high school algebra or Mathematics 106. Corequisite: Astronomy 182 laboratory or approval of the head of the department.*

#### 181 Astronomy Laboratory - The Solar System (1)

Optional laboratory to accompany Astronomy 101. Illustrates concepts of practical astronomy such as measuring planetary rotation rate and mass, using telescopes, deep sky observation session. On demand. Two hours per week. *Corequisite: Astronomy 101 or approval of the head of the department.*

#### 182 Astronomy Laboratory - Stars to Galaxies (1)

Laboratory to accompany Astronomy 102. Exercises and observations include learning to set up and use a telescope, spectroscopy, a deep sky observing session, a visit to Jones Observatory and Planetarium, photometry, and the Hubble Redshift-Distance relation. Fall semester. Two hours per week. *Corequisite: Astronomy 102 or approval of the head of the department.*

#### 199r Special Projects (1-4)

Individual or group studies. On demand. *Prerequisites: approval of the instructor and head of the department. Cumulative limit of 4 hours.*

#### 300r Advanced Astronomy Laboratory (1)

Laboratory techniques in astronomy. Applications of spectroscopy, optics, modern photographic techniques, and photometry to observational astronomy. Use of the university's observatory. On demand. *Prerequisite: Astronomy 101/181 or 102/182 or approval of the instructor. Cumulative limit of 2 hours.*

#### 401 Solar System Astrophysics (3)

Application of basic physical laws to the problem of the origin and evolution of the solar system. Solar structure and energy sources, radiative transfer, the solar magnetic field, the interplanetary medium, celestial mechanics, comets, meteors, asteroids, the planets, and their satellites. On demand. *Prerequisite: Physics 342 or approval of instructor.*

#### 495r Departmental Honors

**(1-3 hours per term, 4 hours for the two terms)**

On demand. Graded on a satisfactory/no credit basis.

See "Departmental Honors," page 39.

#### 498r Individual Studies (1-4)

On demand. *Prerequisites: approval of the instructor and head of the department.*

#### 499r Group Studies (1-4)

On demand. *Prerequisites: approval of the instructor and head of the department.*

### GENERAL SCIENCE COURSES (GNSC)

#### 111 The Physical Environment: Atoms to Galaxies (3)

Description of physical science from three view points: its historical and sociological significance, the processes of science, and the present content of scientific fact and theory. Topics include physics, chemistry, geology, and astronomy. *Prerequisite: 2 units of college preparatory mathematics or Mathematics 106, or approval of the head of the department. Corequisite: General Science 181 Laboratory, or approval of the head of the department.*

#### 115 Science and Society (3)

Explores the interrelationship of science and society through discussion of scientific issues that are vitally important to our society and everyday life. Specific topics may vary in keeping with current issues, but are likely to include technology revolution, the energy crisis and possible solutions, the importance of science to our economy and defense, the impact of politics and the economy on scientific research, and space science. On demand. *Prerequisite: Two units of college preparatory Math or Math 106, or approval of the head of the department.*

#### 181 General Science Laboratory (1)

Laboratory to accompany general science 111. Studies involve error analysis, circuits, optics, nuclear radiation, heat and temperature, pH Measurements, astronomy measurements, identification of minerals, a geological field trip, and a visit to Jones Observatory. Every semester. Two hours per week. *Corequisite: General Science 111 or approval of the head of the department.*

### PHYSICS COURSES (PHYS)

#### 103 General Physics - Mechanics and Heat (3)

Algebra-based introduction to forces and uniform motion, conservation principles, sound and thermodynamics, with applications to problems of modern sci-

ence and technology. Every semester. Lecture 3 hours. *Prerequisite:* 3 units of college preparatory mathematics or Math 105 or equivalent; *Corequisite:* Physics 183 laboratory, or approval of the head of the department.

#### 104 General Physics - Electromagnetism and Optics (3)

Algebra-based introduction to classical electricity and magnetism, optics, and the concepts of modern physics. Required in premedical, pre dental, prepharmacy, and physical therapy programs. Every semester. Lecture 3 hours laboratory 2 hours. *Prerequisite:* Physics 103/183 or approval of the instructor. *Corequisite:* Physics 184 laboratory, or approval of the head of the department.

#### 119 Light and Life (4)

Examines the methods of investigation that lead to our understanding of light and its role in nature and human development. Lecture 3 hours, laboratory 2 hours. *Prerequisite:* Math Placement level 20. *Credit not allowed toward the chemistry, physics, geology, biology or environmental sciences majors. May be registered as Biology 119 or Chemistry 119. Credit allowed in only one of the three courses.*

#### 183 Principles of Physics Laboratory (1)

Laboratory to accompany Physics 103. Experiments investigate various aspects of forces and uniform motion, conservation, principles, sound and thermodynamics. Every semester. Two hours per week. *Corequisite:* Physics 103 or approval of the head of the department.

#### 184 General Physics Laboratory - Electromagnetism and Optics (1)

Laboratory to accompany Physics 104. Experiments investigate various aspects of electromagnetism, electrical currents, instrumentation, optics, and radioactivity. Every semester. Two hours per week. *Corequisite:* Physics 104 or approval of the head of the department.

#### 199r Special Projects (1-4)

Individual or group projects. On demand. *Prerequisites:* approval of the instructor and head of the department. *Cumulative limit of 4 hours.*

#### 230 Principles of Physics - Mechanics and Heat (3)

Calculus-based introduction to the laws of classical dynamics, kinematics, and thermodynamics, with applications to simple physical systems. Every semester. Lecture 3 hours. *Pre- or Corequisite:* Mathematics 161/162 or approval of the instructor. *Corequisite:* Physics 280 laboratory, or approval of the head of the department.

#### 231 Principles of Physics - Electricity and Magnetism (3)

Calculus-based introduction to electric and magnetic fields, electric currents, electromagnetic induction and waves. For all engineering students. Every semester. Lecture 3 hours, laboratory 2 hours. *Prerequisites:* Engineering 103 and 104, or Physics 103/183 and 104/184; or Physics 230/280; *Mathematics 151/152, 161/162, or approval of the head of the department. Corequisite:* Physics 281 laboratory.

#### 232 Principles of Physics - Optics and Modern Physics (3)

Calculus-based survey of principles of optics, and of the early conceptual advances in 20th-century physics: the Bohr atom, quantum theory, relativity, nuclear physics and elementary particles. For all engineering students. Every semester. Lecture 3 hours, laboratory 2 hours. *Prerequisites:* Engineering 103 and 104, or Physics 103/183 and 104/184, or 230/280; *Mathematics 151/152, 161/162, or approval of the instructor. Corequisite:* Physics 282 laboratory, or approval of the head of the department.

#### 280 Principles of Physics Laboratory (1)

Laboratory to accompany Physics 230. Experiments investigate basic laws of motion, conservation principles, waves and oscillations, and heat measurements with emphasis given to error analysis. Every semester. Two hours per week. *Corequisite:* Physics 230 or approval of the head of the department.

#### 281 Principles of Physics Laboratory - Electricity and Magnetism (1)

Laboratory to accompany Physics 231. Experimentation investigate basic electronic circuitry and electromagnetic induction, with emphasis given to error analysis. Every semester. Two hours per week. *Corequisite:* Physics 231 or approval of the head of the department.

#### 282 Principles of Physics Laboratory - Optics and Modern Physics (1)

Laboratory to accompany Physics 232. Experiments investigate geometrical optics, interference and diffraction and radioactivity, with emphasis given to error analysis. Every semester. Two hours per week. *Corequisite:* Physics 232 or approval

of the head of the department.

#### 303 Basic Electronics (4)

Review of simple DC and AC circuitry; applications of diodes, transistors, and operational amplifiers; introduction to digital electronics using TTL integrated circuits and their applications. Spring semester. Lecture 3 hours, laboratory 2 hours. *Prerequisites:* Physics 103/183 and 104/184, or 231/281; *Mathematics 161/162; or approval of the instructor.*

#### 304 Electronic Circuits (4)

Theory and use of basic electronic instruments for electrical measurement or control. Multistage amplification, feedback, oscillators, and digital/logic circuitry treated with varying emphasis. On demand. Lecture 3 hours laboratory 2 hours. *Prerequisite:* Physics 303 or approval of the instructor.

#### 307 Optics (4)

Basic aspects of geometrical and physical optics, including interference, diffraction, and polarization; optical systems; wave equations and superposition; laser basics. Fall semester alternate years. Lecture 3 hours, laboratory 2 hours. *Prerequisites:* Physics 230/280, 231/281, 232/282 or Physics 103/183, 104/184; *Mathematics 161/162; or approval of the instructor.*

#### 310 Introduction to Thermal Physics (4)

Laws of thermodynamics, kinetic theory, and statistical mechanics with applications to basic thermodynamic systems. Fall semester alternate years. Lecture 3 hours, recitation 2 hours. *Prerequisites:* Physics 230/280, 231/281, 232/282; or Physics 103/183, 104/184; *Mathematics 161/162. Corequisite:* Mathematics 255; or approval of the instructor.

#### 318 Radiation Physics and Introductory Health Physics (3)

Introduction to ionizing radiation, its production and interaction with matter, its biological effects and its measurement. Radiation protection practices and regulatory guidelines. The uses of radiation and radioisotopes in biology, chemistry, environmental sciences, and medicine. Benefits and hazards of nuclear energy. Nuclear weapons and the effects of nuclear warfare. On demand. *Prerequisite:* Physics 104/184 or 232/282; or approval of the instructor.

#### 341 Classical Mechanics (4)

Dynamics of particles and continuous media; Newton's law of motion, conservation laws, generalized coordinates, Lagrange's equations, and the principle of least action; the mechanics of continuous media, wave motion, sound, hydrostatics, rotational and irrotational flow, the equation of continuity, Laplace's equation. Fall semester. Lecture 3 hours, recitation 2 hours. *Prerequisites:* Physics 230/280, 231/281 or 103/183, 104/184; or approval of the instructor. *Corequisite:* Mathematics 245 or 255.

#### 342 Electricity and Magnetism (4)

Basic laws of electromagnetism, electric and magnetic properties of materials, Maxwell's equations, boundary value problems, electromagnetic waves. Spring semester. Lecture 3 hours, recitation 2 hours. *Prerequisite:* Physics 341; *Mathematics 245, 255; or approval of the instructor.*

#### 381r Methods of Experimental Physics (2)

Introduction to experimental design and techniques in areas such as harmonic motion, gravitation, timing and timing coincidence measurements, measurement of thermodynamic properties, electrical and magnetic measurements. Fall semester. Lecture 1 hour, laboratory 2 hours. *Prerequisites:* Physics 230/280, 231/281, 232/282; or Physics 103/183, 104/184. *Corequisite:* Physics 341 or 342, 307 or 310; or approval of the instructor. *Cumulative limit of 4 hours.*

#### 382r Classical Physics Laboratory (2)

Advanced laboratory course emphasizing the measurement and analysis of the properties of classical physical systems in optics, mechanics, electricity and magnetism, thermodynamics and materials science. Spring semester. Lecture 1 hour, laboratory 2 hours. *Prerequisites:* Physics 230/280, 231/281, 232/282; or Physics 103/183, 104/184. *Corequisite:* Physics 341 or 342, 307 or 310; or approval of the instructor. *Cumulative limit of 4 hours.*

#### 400r Physics Seminar (1)

Reports and reviews of selected physics research, including the abstracting of publications. On demand. Enrollment limited to juniors or above or approval of the

instructor. *Cumulative limit of 2 hours.*

#### 411 Introduction to Quantum Mechanics (3)

Basic elements and principles of quantum physics: probability waves, the Schrodinger equation, expectation values and operator formalism, the hydrogen atom, radiation processes. Fall semester. *Prerequisites: Physics 230/280, 231/281, 232/282; or Physics 103/183, 104/184; Mathematics 245 or 255; or approval of the instructor.*

#### 412 Nuclear Physics (3)

Theory of nuclear structure; nuclear radiation characteristics; the interaction of radiation with matter; nuclear binding forces; the control and use of nuclear radiation. Spring semester. *Prerequisites: Physics 230/280, 231/281, 232/282; or Physics 103/183, 104/184; Mathematics 245 or 255; or approval of the instructor.*

#### 414r Advanced Modern Physics (3)

One topic selected from biophysics, elementary particles, quantum mechanics, relativity, solid state physics, statistical mechanics, or superconductivity. Emphasis on the relation of the assumptions and predictions of the theories to the experimental evidence. Consequences of the theories illustrate the nature of physics and its applications in modern science. On demand. *Prerequisites: Physics 341; Mathematics 245, 255; or approval of the instructor. Cumulative limit of 9 hours.*

#### 419 Introduction to Nuclear Reactor Physics (3)

Nuclear reactions and radiation; fission processes, neutron diffusion, reactor design variables, reactor materials and shielding, reactivity coefficients. On demand. *Prerequisite: Physics 412 or equivalent, or approval of the instructor.*

#### 424 Instrumentation, Interfacing, and Microcomputers (3)

Interfacing instruments, measuring devices, and controls to mini and microcomputers. Includes voltmeters, counters, timers, temperature and other sensors, CRTs, floppy-disks, keyboards, music synthesizers, and control devices such as relays, thermostats, stepper motors, oscillators, and power supplies. Considers standard S100, IEE-488, and RS232C bus structures. Survey of microcomputer applications. Projects involving interfacing instruments with microcomputers. On demand. Lecture 2 hours, laboratory 2 hours. *Prerequisites: Physics 104/184, 232/282 or equivalent; Computer Science 110 or equivalent; or approval of the instructor.*

#### 425 Computer-Based Materials Development in Science (3)

Basic principles and practice of developing computer-based materials for science education. Projects to be chosen from a pool of topics in a specific area of science. Each module to include documentation, a tutorial, a pretest, a post test, explanatory material, a question set, a problem set, a graphics segment, etc. Modules to be prepared to publication standards. *Prerequisite: Computer Science 102 or equivalent. Enrollment limited to juniors or above or approval of the instructor.*

#### 430 Physics of Living Systems (3)

Introduction to basic biophysical processes occurring at the cellular level. Emphasis on energy transformations, and experimental techniques of biophysics. On demand. *Prerequisites: Physics 230/280, 231/281, 232/282, 310; or approval of the instructor.*

#### 441 Radiation Dosimetry (3)

Introduction to the theory and methodology of determining exposure and dose from ionizing radiation. Topics include: radioactivity and radioactive decay processes; the interaction of ionizing radiation with matter; exposure, dose and KERMA; cavity chamber theory; and instrumentation for radiation and dose measurement. On demand. *Prerequisites: Physics 104/184 or 232/282, or approval of the instructor.*

#### 442 Radiation Biology (3)

Molecular effects of ionizing radiation and the relationship between molecular events and the acute and chronic effects of ionizing radiation. The human data base for estimates of the effects of low levels of ionizing radiation. Risk assessment of exposure to populations. On demand. *Prerequisites: Physics 104/184 or 232/282, or approval of the instructor.*

#### 481r Atomic Physics Laboratory (2)

Advanced laboratory on experimental methods used in atomic physics. Possible laboratory experiments include emission and absorption spectra of atoms and atomic ions, the Franck-Hertz experiment, the Stern-Gerlach experiment, electron-spin resonance, and nuclear magnetic resonance. Analysis of experimental results will be used to study theoretical models of physical processes. Fall semes-

ter. Lecture 1 hour, laboratory 2 hours. *Prerequisites: Physics 230/280, 231/281, 232/282; or Physics 103/183, 104/184; Mathematics 245; or approval of the instructor. Cumulative limit of 4 hours.*

#### 482r Nuclear and Health Physics Laboratory (2)

Laboratory course in nuclear physics emphasizing the use of modern detection and counting equipment. Laboratory exercises include radiation dosimetry, radioisotope techniques, neutron scattering, gamma-gamma correlation, and the study of nuclear radiation detection. Spring semester. Maximum credit 4 hours. Lecture 1 hour, laboratory 2 hours. *Prerequisites: Physics 230/280, 231/281, 232/282; or Physics 103/183, 104/184, 318; Mathematics 245, or approval of the instructor. Cumulative limit of 4 hours.*

#### 495r Departmental Honors

**(1-3 hours per term, 4 hours for the two terms)**

On demand. See "Departmental Honors," page 39.

#### 497r Research (1-4)

On demand. *Prerequisite: approval of department head.*

#### 498r Individual Studies (1-4)

On demand. *Prerequisite: approval of department head.*

#### 499r Group Studies (1-4)

On demand. *Prerequisite: approval of department head.*

## Political Science, Public Administration and NonProfit Management

*Professor Fouad Moughrabi, Head*

Students majoring in political science may earn a B.S. degree, choosing one of four concentrations: Public Administration, American Studies, International and Comparative Studies, or Legal Studies.

The department offers courses in five major subfields of the discipline: political behavior and methodology (200, 202, 203, 302, 303, 401r); political theory (213, 314, 316, 411r, 424); public law and administration (221, 223, 224, 320, 321, 322, 323, 421r, 422r, 423, 434); American institutions and processes (233, 234, 330, 331, 333, 335, 336, 431r, 432, 436); and international relations and comparative government (242, 244, 246, 341, 343r, 345, 346, 347, 348, 441r, 442r). Certain students may also participate in the State Government Internship Program, the Metropolitan Government Internship Program, the National/International Government Internship Program, or the Judicial Honors Internship.

## Political Science (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses one, from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and



Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses other than Political Science. (6 hours)

### Minor Requirement

All Political Science majors must complete a minor with a minimum 2.0 grade point average.

### Major and Related Courses

Requirements depend upon the concentration declared.

## 2846 - Public Administration Concentration

9 hours including Political Science 101, 102, 200

9 hours from Political Science courses at the 200 level (excluding 200). Must include Political Science 223

9 hours from Political Science courses at the 300 level. Must include 6 hours from Political Science 324, 330, 331, 336, 350

15 hours from Political Science courses at the 400 level including at least 6 hours from the Public Administration area approved by the departmental advisor and no more than 6 hours from Political Science 461r, 462r, 463, 464, 471r, 472, 480, 481, 495r, 497r, 498r or 499r

Related courses (12 hours):

English 279 or 300 or Political Science 495

Economics 101 and 3 hours from Human Services 202, 300, or 301

## 2848 - American Studies Concentration

9 hours including Political Science 101, 102, 200

9 hours from Political Science at the 200 level (excluding 200). Must include one of the following: 213, 233, or 234.

9 hours at the 300 level from Political Science 321, 322, 323, 324, 330, 331, 333, 335, 336

15 hours from Political Science courses at the 400 level including at least 6 hours of appropriate American Studies courses approved by the departmental advisor and no more than 6 hours from Political Science 461r, 462r, 463, 464, 471r, 472, 480, 481, 495r, 497r, 498r or 499r

Related courses (12 hours):

English 279 or 300 or Political Science 495

Economics 101; History 203 and 204

## 2851 - International and Comparative Studies Concentration

9 hours including Political Science 101, 102, 200

9 hours from Political Science courses at the 200 level (excluding 200). Must include at least 3 hours from Political Science 242, 244 or 246

9 hours at the 300 level from Political Science 341, 343r, 345, 346, 347

15 hours from Political Science courses at the 400 level including at least 6 hours of International and Comparative Studies courses approved by the departmental advisor and no more than 6 hours from Political Science 461r, 462r, 463, 464, 471r, 472, 495r, 497r, 498r or 499r

Related courses (20 hours):

English 279 or 300 or Political Science 495

2 years of one foreign language at the college level

Economics 101

## 2852 - Legal Studies Concentration

9 hours including Political Science 101, 102, 200

9 hours from Political Science courses at the 200 level (excluding 200). Must include Political Science 221.

9 hours at the 300 level from Political Science 320, 321, 322, 323

15 hours from Political Science courses at the 400 level including at least 6 hours of courses from the public law subfield approved by the departmental advisor and no more than 6 hours from Political Science 461r, 462r, 463, 464, 471r, 472, 480, 481, 495r, 497r, 498r or 499r

Related courses:

English 279 or 300 or Political Science 495

2 years of one foreign language at the college level  
Economics 101; Philosophy 211

Minimum of 2.0 in all political science courses

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours.

See page 35 for additional requirements.

## POLITICAL SCIENCE MINORS

### 4642 - Political Science

18 hours including Political Science 101, 102 and 12 hours electives in Political Science. At least nine hours must be at the 300-400 level with no more than three hours from 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r.

Minimum 2.0 average in minor.

### 4632 - Political Science: American Government

18 hours including Political Science 101, 6 hours from Political Science 202, 203, 213, 233 and 234, and 9 hours from Political Science 330, 331, 333, 335, 336, 348, 425, 431r, 432, 434, 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r. No more than three hours from 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r.

Minimum 2.0 average in minor.

### 4637 - Political Science: International and Comparative Studies

18 hours including 6 hours from Political Science 102 104, 242 and 12 hours from Political Science 244, 246, 341, 343r, 345, 346, 347, 441r, 442r, 498r and 499r. No more than three hours from 498r and 499r.

Minimum 2.0 average in minor.

### 4634 - Political Science: Legal Studies

18 hours including Political Science 101, 221, and 12 hours from Political Science 320, 321, 322, 323, 421r, 423, 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r. No more than three hours from 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r.

Minimum 2.0 average in minor.

### 4635 - Political Science: Political Psychology and Behavior

18 hours including Political Science 101, 202 and 203, and 9 hours from Political Science 302, 303, 401r, 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r. No more than three hours from 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r.

Minimum 2.0 average in minor.

### 4636 - Political Science: Public Administration

18 hours including Political Science 101, 223, and 12 hours from Political Science 244, 324, 330, 331, 350, 422r, 425, 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r. No more than three hours from 461r, 462r, 463, 464, 471r, 472, 481, 498r and 499r.

Minimum 2.0 average in minor.

## POLITICAL SCIENCE COURSES (POLs)

### 101 American Government (3)

The foundations, institutions, processes and policies of American national government with attention to the Constitution and such topics as elections, political and civil rights and liberties, federalism, public policy, public opinion, political culture, interest groups, and the role of citizens in governance. Every semester.

### 102 World Politics (3)

The evolution, nature, and operation of the contemporary world political system with attention to the behavior of states, the impact of ideology, culture, and domestic politics on foreign policy, the behavior of transnational political and economic actors, the effects of international competition, and the impact of international institutions on promoting cooperation. Every semester.

**103 Controversies in Public Policy (3)**

Contemporary policy issues in American politics with attention to current problems, proposed solutions, and competing viewpoints.

**104 Politics, Culture and Society: Non-Western Views (3)**

A study of culture, politics, and society in the non-western world with emphasis on significant intellectual contributions, modes of inquiry, value systems, structures of belief and practices of everyday life.

**199r Special Projects (1-4)**

Individual or group projects. Every semester.

**200 Research Methods (3)**

Basic techniques in political science research. Required for political science majors. Formerly Political Science 301. Fall semester. *Prerequisite: Mathematics 210.*

**202 Political Behavior (3)**

Political attitudes, beliefs, and behaviors; their sources and effects. Emphasis primarily on the United States with selected examples from Western European democracies. On demand.

**203 Public Opinion (3)**

Sources, content, and impact of public opinion on the political process. On demand.

**213 American Political and Constitutional Thought (3)**

A study of the major political and constitutional ideas that have influenced the development of the United States since its founding. Formerly Political Science 315. On demand. *Recommended for prelaw majors.*

**221 Introduction to Judicial Process (3)**

An examination of the role, operation and decision-making processes of the U.S. Supreme Court and lower federal courts. On demand. Recommended of pre-law majors.

**223 Introduction to Public Administration (3)**

Principles of government organization, management, financial control, personnel practices, and administration. On demand. *Recommended for pre-law majors.*

**224 Justice and the American Trial Process (3)**

An in-depth analysis of the modern trial process in the United States. Emphasis on assessing the weak points of the American judicial system and on preparing an actual mock trial case for argument.

**233 State and Local Government and Politics (3)**

Tennessee state and local government and politics with comparisons to government and politics in the other states. On demand.

**234 The Presidency (3)**

The nature of the presidency as an institution. Presidential decision-making and relations with other branches of government. On demand.

**242 International Relations (3)**

An examination of the theoretical, historical and behavioral causes of war and peace. Focus on the role of power, sovereignty, and international law on world politics. On demand.

**244 Comparative Public Policy (3)**

The formation and implementation of social welfare policies in developed and developing nations. On demand.

**246 Comparative Latin American Politics (3)**

An introduction to the study of Latin American politics with emphasis on alternative theoretical explanations for patterns of development involving the roles of elected leaders; the Church; military and economic elites; and workers and peasants.

**302 Political Psychology (3)**

Psychological bases for political action. On demand.

**303 Politics and Communication (3)**

Propaganda and other means of political and social control. On demand.

**314 Contemporary Political Ideas (3)**

The competing ideologies of the 20th century with emphasis on contemporary political and social thought including Marxism and Fascism. On demand.

**316 Theories of Politics (3)**

An introduction to such theoretical concerns of Western political science as sovereignty, rights, justice, property, liberty, and equality. Readings from Plato, Aristotle, Locke, Montesquieu, Mill and Marx. On demand.

**320 Philosophy of Law (3)**

A study of law and legal reasoning with emphasis on the nature and sources of law, moral theory and its relation to law, definitions of rights and justice, and the nature of legal and moral obligation. *Recommended for prelaw majors.*

**321 American Constitutional Law (3)**

Case studies of key Supreme Court decisions affecting the distribution of power in American society. Formerly Political Science 222. On demand. *Recommended for prelaw majors.*

**322 Civil Liberties (3)**

Case studies of key Supreme Court decisions affecting the rights and freedoms of the individual in American society. On demand. *Recommended for prelaw majors.*

**323 Law and Politics (3)**

Lawyers, judges, police, and the political process. On demand. *Recommended for prelaw majors.*

**324 Public Policy (3)**

An examination of the public policymaking process with an emphasis on actors, administration, and evaluation. On demand.

**330 Urban Public Policy (3)**

An introduction to the different approaches, ideas and programs advanced to address public policy urban problems. On demand.

**331 Urban Politics (3)**

An examination of political competition and relations among groups, institutions and classes in urban areas. Particular attention is given to how economic and fiscal concerns impact the political process. On demand.

**333 Political Parties and the Election Process (3)**

An examination of America's two-party system, political machines, third parties, modern campaign techniques, electoral behavior, and election administration. On demand.

**335 Congress (3)**

The contemporary Congress. The roles of congressmen and women, the distribution of power within Congress, relations with other branches of government, and prospects of reform. On demand.

**336 Women in Politics (3)**

An examination of the role and status of women in the American political system. Special emphasis given to the impact of selected public policies upon women. On demand. *May be registered as WSTU 336. Credit not allowed in both Political Science and Women's Studies 336.*

**341 Inter-American Relations (3)**

Historical and contemporary relations between the United States and Latin America with emphasis on U.S. hegemonic rule; economic relations; the war on drugs; national security issues; democracy and human rights; and the impact of Latin America on U.S. politics and policy.

**343r Comparative Government and Politics (3)**

The study of the governmental structures, processes, and ideologies of different regions of the world, comparing their political, economic, and social policies. May be repeated to focus on different regions of the world. On demand.

**345 American Foreign Policy (3)**

The basic foreign policy problems confronting the United States. On demand.

**346 Comparative Politics: China (3)**

A study in comparative culture, history and politics as applied to the current government in the People's Republic of China with an emphasis on the factors which have shaped the government and politics of China since World War II. On demand.

**347 Politics of the Middle East (3)**

A study of the contemporary politics in the Middle East with emphasis on the evolution of the Arab State System after World War II, the creation of Israel, the Arab-Israeli and other regional conflicts, and the peace process from Camp David on.

**348 Politics of Immigration (3)**

An examination of immigration policy in the United States with an emphasis on historical patterns, policy debates, legal ramifications, and rules and regulations of the Immigration and Naturalization Service.

**350 Technology, Politics and Society (3)**

An examination of the impact of technology on politics and society, with special focus on public policy shifts resulting from changes in technology. On demand.

**401r Advanced Topics in Political Behavior (3)**

Selected topics in political behavior. May be repeated once. On demand.

**411r Advanced Topics in Political Theory (3)**

Selected topics in political theory. May be repeated once. On demand.

**421r Special Topics in Public Law (3)**

Selected topics in public law. On demand. *Recommended for pre-law majors.*

**422r Special Topics in Public Administration (3)**

Selected topics in public administration. On demand.

**423 Crime and Punishment (3)**

An examination of the nature and implications of the major philosophies of punishment with emphasis on their ramifications for assessing the legitimacy of capital punishment. *Recommended for prelaw majors.*

**424 Jefferson (3)**

An examination of the political and social ideas of Thomas Jefferson with attention to their influence on American politics and public policy.

**425 Policy Issues in Aging (3)**

An introduction to the political, economic, social and health policy questions raised by the phenomenon of an aging population. On demand.

**431r Advanced Topics in American Institutions and Processes (3)**

Selected topics in American institutions and processes. On demand.

**432 Southern Politics (3)**

A study of the South's role in national politics with an emphasis on the demographic, economic, social and political forces which give shape to the political values and partisan preferences of the region's electorate. On demand.

**434 Politics of Child Care (3)**

An examination of child care policy in the United States and its implications for public policy making in general. *May be registered as WSTU 434. Credit not allowed in both Political Science and Women's Studies 434.*

**436 Presidential Leadership (3)**

An examination of the dynamics of presidential leadership in domestic and foreign affairs with emphasis on historical examples of executive leadership in times of crisis in the post-World War II period.

**441r Advanced Topics in International Relations and Foreign Policy (3)**

Selected topics in international relations and foreign policy. May be repeated once. On demand.

**442r Advanced Topics in Comparative Government (3)**

Selected topics in comparative government. May be repeated once. On demand.

**461r, 462r, 463, 464 State Government Internship Program (3)**

Internship conducted during the legislative session in government and legislative offices in Nashville. Spring semester. *No more than 6 credit hours may apply toward the major degree requirements in the department. Prior approval of instructor.*

**471r, 472 Metropolitan Government Internship Program (1-3)**

Internship conducted in various governmental offices in Chattanooga. Fall semester. *No more than 6 credit hours may apply toward the major degree requirements in the department. Prior approval of instructor.*

**473r, 474, 475, 476 National/International Government Internship Program (3)**

Internship conducted in various national and international government offices, departments, or agencies. *Prerequisites: Minimum 60 earned hours, 2.5 grade point average, and prior approval of instructor. No more than 6 credit hours may apply toward major degree requirements in the department.*

**481 Judicial Honors Internship (3)**

Internship conducted in the office of a local judge. Student applicants (any major) must have earned at least a 3.0 grade point average, completed 60 hours of course work and taken and passed either Political Science 221 or Political Science 321. Selection by a Political Science Department committee.

**495r Departmental Honors**

**(1-3 hours per term, 4 hours for the two terms)**

Every semester. See "Departmental Honors," page 39.

**497r Research (1-4)**

On demand. *Prerequisite: approval of department head.*

**498r Individual Studies (1-4)**

Enrollment limited to students with a 3.0 average in the major. On demand. *Prerequisite: approval of department head.*

**499r Group Studies (1-4)**

On demand. *Prerequisite: approval of department head.*

## Human Services Management

*Professor Marvin Ernst, Coordinator*

The Human Services Management Program provides basic preparation for entry level supervisory and managerial positions in nonprofit, public and private organizations which provide a broad spectrum of human and community services. Three concentrations are available: Nonprofit Management; Allied Health Management; and Emergency Systems Management.

## 2898 - Human Services Management: Nonprofit Management (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours; approved related course below will apply)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and

## 100 :: Political Science

Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines. (6 hours)

### Major and Related Courses

Psychology 101 and one course from Psychology 221, 222 or 223  
38 hours Human Services 202, 205 (or other approved statistics course), 300, 301, 320, 330, 340, 405, 410, 420, 425, 450, 471  
7 hours practicum from Human Services 470 or 472, and 474

2.0 average in all human services courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## 2896 - Human Services Management: Allied Health Management (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours; approved related course below will apply)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines. (6 hours)

### Major and Related Courses

Licensure or registry in an American Medical Association approved allied health specialty required for admission to this concentration

6 hours including Psychology 101 and 3 hours from Psychology 221 or 222 or 223  
38 hours including Human Services Management 202, 205 (or another approved statistics course), 300, 301, 320, 330, 340, 405, 410, 420, 425, 450, 471

7 additional hours in approved allied health clinical course work. Student must be licensed in a AMA allied health field and have a minimum of two years experience in an allied health field or Human Services 470 OR Human Services 472 and Human Services 474

2.0 average in all human services courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## 2897 - Human Services Management: Emergency Systems Management (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** 2 approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one includ-

ing a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

### Major and Related Courses

6 hours including Psychology 101 and 3 hours from Psychology 221 or 222 or 223  
38 hours including Human Services 202, 205 (or other approved statistics course), 300, 301, 320, 330, 340, 405, 410, 420, 425, 450, 471

12 hours including Human Services 350, 355, 430, 435

7 hours in Human Services 470 Human Service Practicum or approved certification course work in emergency management systems or additional electives as prescribed by and Human Services advisor.

2.0 average in all human services courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## HUMAN SERVICES MINORS

### 4593 - Human Services Management

9 hours including Human Services 202, 330, 340.

9 additional hours Human Services course work with at least 6 hours at the 400 level.

Minimum 2.0 average in the minor.

### 4594 - Emergency Systems Management

18 hours including Human Services 202, 330, 350, 360 and 6 hours selected from Human Services 355, 413, 430 or 445.

At least 15 hours at the 300-400 level.

Minimum 2.0 average in the minor.

## HUMAN SERVICES COURSES (HSRV)

### 101 Team Participation (3)

Analysis of the importance of working in groups in today's society; examination of theories and research related to formal and informal groups; study of the empirical approaches to understanding groups; application of behavior and social science research. Every semester

### 199r Special Projects (1-4)

Individual or group projects. Every semester. Prerequisite: approval of the department head. *Maximum credit 4 hours.*

### 202 Introduction to Human Services Management (3)

A study of aspects of the human services system that have evolved as a response to the characteristics of urban society, and the organizations which function as components of the system. (*Formerly 102*).

### 205 Introduction to Statistics for Health and Human Services (3)

A course on descriptive and inferential statistical analysis emphasizing applications in health and human services. Students will have the opportunity to interpret, develop and use statistical and probabilistic models of phenomena in health and human services. Statistical techniques will be practiced (such as descriptive, correlation and regression analysis, probability concepts, analysis of variance and power analysis) illustrating how statistics affects our understanding of social phenomena. *Prerequisite: UTC Mathematics Placement Level of 20 or equivalent.*

### 300 Perspectives on Work and Professions (3)

A multidisciplinary examination of the social, ethical, political, and psychological environment of work and the professions. Emphasis on the historical development of the meaning and effect of work on the organization and development of various work structures and processes. Every semester. *Prerequisite: English 122.*

**301 Social Change and Social Policy (3)**

A cross-disciplinary examination of basic theories of social change. Analysis of social indicators as determinants of social policy for effecting social reform in the United States. Fall semester.

**304 Gender in the Workplace (3)**

The impact of gender in the workplace. A close study of cultural factors as they pertain to modern attitudes, beliefs, and practices concerning working men and women. Formerly Human Services 204. *Prerequisite: English 122 or equivalent. May be registered as WSTU 304. Credit not allowed in both Human Services 304 and Women's Studies 304.*

**320 Human Services Supervision (3)**

Concepts and techniques appropriate to supervision in human services and governmental agencies and organizations. Fall semester. *Prerequisite: Human Services 202 or approval of instructor.*

**330 Human Services Program Planning (3)**

Principles of agency and program planning. Consideration of the role or community needs assessments. Emphasis upon skills leading to basic competence in designing and implementing human services. *Prerequisite: Human Services 202 or approval of instructor.*

**340 Human Services Program Evaluation (3)**

Introduction to the concepts and practices of human services program evaluation. Emphasis upon program evaluation as a research process. Hands on experience with the techniques, procedures, computer applications and conclusions and reports of evaluation. Spring semester. *Prerequisite: Human Services 330 or approval of instructor.*

**350 Introduction of Emergency Systems Management (3)**

This course is an introduction to the field of emergency management, including history, evolution, and important foundations. Concepts of comprehensive emergency management (CEM) and integrated emergency management systems (IEMS) are explored within the context of systems theory. *Prerequisite: Human Services 202 or approval of instructor.*

**355 Hazard Mitigation (3)**

This course is an introduction to the basic approaches and understandings of hazard mitigation and introduction to the basic tools regarding hazard mitigation that can be used in the actual work environment. *Prerequisite: Human Services 202 and 350 or approval of instructor.*

**360 Emergency Preparedness (3)**

This course provides a comprehensive look at all aspects of emergency and disaster preparedness. Planning concepts and the planning process will be discussed; awareness and educational programs and strategies will be reviewed; and other essential preparedness actions will be emphasized. *Prerequisite: Human Services 350 or approval of instructor.*

**405 Interpersonal Skills Laboratory (3)**

A supervised laboratory experience designed to enhance the student's development of communication skills, interpersonal functioning, and the understanding of group processes. Every semester. *Prerequisites: 6 hours of behavioral sciences and junior standing.*

**410 Fiscal Management in Human Services (3)**

This course is designed to acquaint students with the basic concepts of budgeting and fiscal management needed for the successful management of a human service agency. Fall semester. *Prerequisites: Human Services 202 and 340 or approval of instructor.*

**414 Terrorism (3)**

A survey of modern domestic and international terrorism. Examines the structure and dynamics of terrorist groups, types of terrorist violence, and justification of violence. Looks at criminal justice and nonprofit, human services policies and responses to this particular type of disaster. *Prerequisites: Criminal Justice 110 or Human Services 202 or completion of social science general education requirement or approval of instructor. May also be registered as Criminal Justice 414. Credit not allowed in both.*

**420 Resource Development in Human Service Organizations (3)**

This course is designed as an examination of various ways to increase the resource

base of human service organizations. Emphasis is on generating additional funds through effective use of available resources both internal and external to the organization. Spring semester. *Prerequisite: Human Services 410 or approval of the instructor.*

**425 Legal Aspects of Nonprofit Management (3)**

The course examines the emerging legal issues facing nonprofit agencies by studying pertinent constitutional, statutory and case law. Moreover, students will be exposed to case studies to assist them in connecting law and agency practice. Fall Semester. *May also be registered as LAS 425.*

**430 Hazardous Materials Regulation (3)**

This course is designed to provide emergency systems management majors with a broad understanding of hazardous materials contingency planning and major regulations associated with it. *Prerequisite: Human Services 202 and 350 or approval of the instructor.*

**435 Disaster Recovery (3)**

This course examines how disaster recovery is viewed from a variety of perspectives including public, private and nonprofits. Case studies are used to highlight the literature, common problems, issues and concepts of disaster recovery. *Prerequisite: Human Services 202 and 350 or approval of the instructor.*

**445 Disaster Response (3)**

This course provides a comprehensive overview of key aspects of disaster response: management systems, critical functions, coordination requirements, decision making, EOC operations, hazard-specific considerations and common problems and needs. Contemporary issues and recent experience in disaster response will be highlighted. *Prerequisite: Human Services 350 or approval of the instructor.*

**450 Seminar in Human Services Administration (3)**

Administrative procedure, processes, planning, and decision-making in human services and governmental settings. Spring semester. *Prerequisites: 202, 320, 330, 410 or approval of instructor.*

**470 Full-time Field Instruction (7)**

Supervised internship in a human services setting related to a student's academic and career goals. Students must apply to the Human Services Management faculty for admission to field placement. The application for admission must be completed by October 15 of the semester prior to enrollment in Human Services 470. Application forms may be obtained from the Human Services Program Coordinator. The criteria are a minimum 2.0 overall grade point average, a 2.25 grade point average in all Human Service Management courses, senior standing and recommendation of the faculty. Students seeking internships will be expected to adjust their schedules to accommodate the work environment and hours of the host agency. Spring semester. *Prerequisites: 202, 330, 340, 410. Corequisite: 471 (2 hours). Graded on a satisfactory/ no credit basis.*

**471 Field Seminar (2)**

Concurrent integrative seminar emphasizing issues common to field experience setting. Spring semester. *Corequisite: Human Services 470, 472, or 474.*

**472, 474 Part-time Field Instruction (4) (3)**

Spring semester. See Human Services 470 description. *Corequisite: Human Services 471 (2 hours). Maximum 7 hours total in field placement.*

**480 Virtual Explorations in Community Problem Solving (3)**

Uses simulation to explore various approaches to problem solving and community collaboration. Focuses on skill areas of system thinking, conflict management, decision making and leadership. Important features are the interdisciplinary focus and multiple perspectives brought by students and faculty, and the use of the web to support learning objectives. *Prerequisite: junior or senior standing in the major.*

**495r Departmental Honors****(1-3 hours per term, 4 hours for the two terms)**

On demand. See "Departmental Honors," page 39.

**497r Research (1-4)**

Every semester.

**498r Individual Studies (1-4)**

Every semester.

**499r Group Studies (1-4)**

On demand.

# Psychology

Professor Paul Watson, *Acting Head*

The Department of Psychology has developed a curriculum that meets the needs of a wide spectrum of interests. The degree options allow for choosing pre-professional or direct work entry, both in the context of a strong liberal art background. The focus is on developing reading, reciting and critical thinking while learning the context of psychology. It is designed moreover to provide a broad but intensive educational experience for students in other fields who have an interest in particular areas of psychology which may bear upon other career plans or goals. The department offers both undergraduate and graduate degrees. Requirements for the B.A. and B.S. degrees follow.

## 1810 - Psychology (B.A.)

**General Education** (see pages 33-36 for list of approved courses)**Rhetoric and Composition:** 2 approved courses in rhetoric and composition (6 hours)**Mathematics:** One approved mathematics course (3 hours)**Statistics:** Psychology 201/204, hours applied to major (4 hours)**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours)**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines other than Psychology (6 hours)**Foreign Language:** Through second college year in one foreign language**Completion of a minor** with a minimum 2.0 grade point average**Major and Related Courses**

27 hours psychology including Psychology 101, 201/204 and one course from Psychology 412, 460 or 461

One computer literacy course from Business Management 100, Computer Science 110, 150

One oral communication course from Theatre and Speech 109, 110, 209 or University Honors 214

One course from two of the following lines:

1. Philosophy 211, 348
2. English 350, 400
3. History 301, 401

No more than 6 hours of one psychology course labeled "r" and no more than 9 hours of all psychology courses labeled "r" will count towards the 27 hours required for the major.

2.0 average in psychology courses.

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours.

See page 35 for additional requirements.

## 2810 - Psychology (B.S.)

**General Education** (see pages 33-36 for list of approved courses)**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)**Mathematics:** One approved mathematics course (3 hours)**Statistics:** Psychology 201/204, hours counted towards major (4 hours)**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines other than Psychology (6 hours)**Major and Related Courses**

One computer literacy course from Business Management 100, Computer Science 110, 150

One oral communication course from Theatre and Speech 109, 110, 209 or University Honors 214

35 hours of psychology including:

101, 201/204 or equivalent, 202 and one course from 412, 460 or 461

Two courses from each of the following lines:

- 1) Psychology 311, 312, 313, 314, 345
- 2) Psychology 221, 241, 308, 331, 448

One course from the following line:

- 3) Psychology 309, 340, 406, 407, 425

No more than 6 hours of one psychology course labeled "r" and no more than 9 hours of all psychology courses labeled "r" will count toward the 35 hours required for the major.

**Either Option A or Option B below:**

Courses fulfilling the options may not be used to fulfill other requirements, including general education requirements.

**Option A**

An established minor in another department.

**Option B**

18 hours from one line below. At least three of these courses must be from the 200 level or above.

1. Biology, chemistry, physics
2. History, political science, sociology/anthropology, economics
3. Business administration, human services, communication
4. Education, health and physical education (not to include service program courses)
5. Computer science, mathematics, engineering
6. English, fine arts, philosophy, history, communication, foreign language

2.0 average in psychology courses

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours

See page 35 for additional requirements.

## 4645 - PSYCHOLOGY MINOR

18 hours psychology including Psychology 101 and either 460 or 461; 9 hours must be upper level.

Minimum 2.0 average in the minor.

### PSYCHOLOGY COURSES (PSY)

**100 Psychology Study Skills Laboratory (1 hour institutional credit)**

Intensive study of introductory psychology with demonstrations, computer simulations, and audiovisual study aids. Focus on study skills and behaviors, derived from psychological research, and applied to Psychology 101 lecture and textbook material to enhance learning. Fall and spring semesters. *Credit not applicable toward any degree. Corequisite: 101.*

**101 Introduction to Psychology (3)**

Introduction to contemporary psychology as a basic and applied social science; analysis of biological, mental, and social determinants of human behavior from the standpoint of psychological theory, research, and practice. Every semester. *May not be taken for credit if Psychology 103 has been taken previously.*

### 199r Special Projects (1-4)

Individual or group projects. Every semester. Maximum credit 4 hours.

### 201 Research Methodology: Introductory Statistics in Psychology (3)

Descriptive and inferential statistics with computer analysis of data from psychological and other social sciences. Traditional and modern descriptive techniques, correlation and regression analysis, probability concepts, inferential techniques on means through analysis of variance, power analysis, and selected nonparametric techniques are presented. The use of state-of-the-art computer programs for analysis of data is emphasized in the corequisite laboratory. Every semester. *Prerequisite: UTC Math Placement level 20 or Mathematics 106; Psychology 101 or equivalent. Corequisite: Psychology 204.*

### 202 Research Methodology: Laboratory and Field Research Techniques (3)

General introduction to research methods in psychology with an emphasis on basic strategies for empirically identifying causal and correlational relationships. Topics will include laboratory and field techniques, quasi-experimental and non-experimental models, and the ethical issues involved in research. Every semester. Lecture 3 hours, laboratory 2 hours. *Corequisite: Psychology 202 laboratory. Prerequisites: Psychology 101 and 201 or equivalent and 204.*

### 204 Statistics in Psychology Laboratory (1)

Tutorial and laboratory exercises to help students master use of professional quality computer software to solve statistical problems. *Prerequisites: UTC Math Placement Level 20 or MATH 106. Corequisite Psychology 201.*

### 221 The Psychology of Child Development (3)

Infancy through childhood. Concepts of development and functioning derived from both research and clinical observation. Emphasis on cognitive, social, and emotional development. Child-rearing applications. Every semester. *Prerequisite: 101 or equivalent. Credit not allowed in both Education 203 and Psychology 221.*

### 222 The Psychology of Adolescence and Adulthood (3)

Principles of adolescent functionality. Evaluation of various theories of adolescence. Psychodynamic consideration of life-span development concepts and the adjustment problems related to aging. Emphasis on age-related changes. *Prerequisite: 101 or equivalent. Credit not allowed in both Education 204 and Psychology 222.*

### 223 Psychology of Aging (3)

Theoretical and empirical introduction to the psychological development of older adults. Discussion of cognition, personality, social behavior, and sensorimotor changes as they evolve at the adult end of the life span. Examination of psychological issues in adult coping, death and dying, and work and family roles. On demand. *Prerequisite: 101 or equivalent.*

### 241 Psychology of Individual Differences (3)

Develops an understanding of the most difficult aspect of human behavior to comprehend: differences. Investigating the three major causes of differences. Looking at the nature of these differences in temperament, intelligence, personality, interests and pathologies. Learning to change from judging to valuing diversity. Exploring the implications the course perspective has for personal, educational, work and political choices/policies. Every semester.

### 242 Psychology of Black Experience (3)

Impact of cultural differences from a psychological perspective. Principles, theories and research in psychology applied to black experience. Differences in socialization, personality, and social processes. Topics include intelligence, racial identity, and psycholinguistics. Every semester.

### 251 The Psychology of Personal Adjustment (3)

An overview of the major theories of adjustment and maladjustment, including classical psychoanalysis, neo-Freudian analysis, humanistic psychology, and social learning and behavior theory. Other topics will include the role of religion, economic status, and cultural context in adjustment. *Prerequisite: 101.*

### 308 Principles of Abnormal Psychology (3)

A biosocial approach to theories of causation, development, and symptomatic behavior in emotional disorder; theoretical bases of the various therapies and of

positive means of prevention. Every semester. *Prerequisite: 6 hours psychology.*

### 309 Contemporary Psychotherapies (3)

A comprehensive review of psychotherapeutic techniques practiced to help alleviate individuals' behavioral, cognitive, and emotional disabilities. Reviews practices derived from the behavioral, cognitive, humanistic, psychodynamic perspectives. In addition, the course emphasizes the empirical research demonstrating the efficacy of these techniques. *Prerequisite: Psychology 308.*

### 311 Learning and Motivation (3)

Study of the effective conditions for various learning phenomena; roles of motivation, reinforcement, and punishment in learning. *Prerequisite: 101, 201 or equivalent, 202, 204 or approval of instructor.*

### 312 Sensation and Perception (3)

Study of sensory and perceptual processes; examination of the sense organs and related neurophysiological mechanisms, and the necessary stimulus conditions for particular perceptual phenomena. Laboratory. Spring semester. *Prerequisite: 101, 201 or equivalent, 202, 204 or approval of instructor.*

### 313 Cognitive Processes (3)

Examination of the ways in which people process information; with an emphasis on attention, memory, problem solving and language. Every semester. *Prerequisite: 101, 201 or equivalent, 202, 204 or approval of instructor.*

### 314 Physiological Psychology (3)

The study of the physiological bases of behavior with emphasis on the functional neural systems of the brain which mediate behavior. Laboratory designed to familiarize students with basic neuroanatomy and neurophysiological techniques used in the investigation of brain functions and behavior. Fall semester. *Prerequisite: 101 or 6 hours of college biology courses, or approval of instructor.*

### 315 Primate Behavior (3)

A comparative survey of the ecology, social behavior, and cognitive ability of non-human primates, especially monkeys and apes, with emphasis on the evolutionary factors that have shaped primate behavior. *Prerequisites: Any of the following: Anthropology 152, 207 or Psychology 101, or approval of instructor. May be registered as Anthropology 315. No credit in both Psychology 315 and Anthropology 315.*

### 316 Psychology of Communication (3)

An examination of complex behavioral processes within and between systems. The role of communications in thinking and problem-solving both by individuals and groups. Practical applications and problems of communication in such areas as management, market research, industry, and intelligence. On demand. *Prerequisite: 101, 201 or equivalent, 202, 204 or approval of instructor.*

### 331 Social Psychology (3)

Survey of the general concepts and research areas in social psychology. Emphasis upon the interactions between the individual and society with consideration of such topics as attitudes, prejudices, conformity, deviance, socialization, and interpersonal attraction. May be registered for as Sociology 331. Every semester. *Prerequisite: 6 hours of psychology or sociology. Credit not allowed in both Psychology 331 and Sociology 331.*

### 340 Applied Developmental Psychology (3)

An in depth examination of interactions among 1) processes in cognitive, language, social, and emotional development and 2) environmental experiences of children, from birth through adolescence. Emphasis on analysis of the implications of these interactions for the welfare of current and future generations of children. *Prerequisites: Psychology 221 or equivalent.*

### 345 Psychological Tests and Measurements (3)

Principles of psychological measurements including reliability, validity, errors of measurement, techniques of test construction, and problems in assessment and prediction. Laboratory use of selected tests. Fall semester. *Prerequisites: 101, 201 or equivalent, 202, 204 or approval of instructor.*

### 360 Ape Language (3)

A review and critical analysis of sign language, speech, computer language, and other symbol studies with great apes and other intelligent animals. Examines the origins of culture, language, and intelligence in humans, and the ethical treatment of great apes and other intelligent animals in nature and under human care. *Prerequisites: Any of the following: Anthropology 152, 207 or Psychology 101, or*

*approval of instructor. May be registered as Anthropology 360. No credit in both Psychology 360 and Anthropology 360.*

#### 401 Intermediate Statistics in the Behavioral Sciences (3)

The use of a popular statistical package for the conduct of statistical analyses in psychology. Applications include common descriptive and inferential techniques, the analysis of variance and multiple regression. On demand. *Prerequisite: 201 or equivalent and 204.*

#### 406 Industrial/Organizational Psychology (3)

Introduction to the study of organizations with emphasis upon personnel selection, criteria, and training. Special consideration of work motivation, job satisfaction, and the role of the organization in behavior. Every semester. *Prerequisite: Introductory statistics course.*

#### 407 Professional Psychology (3)

Role models of the psychological practitioner in community settings. Discussion of the foundations, methods, ethics, legal issues, and relationships with other specialists involved in professional psychology. Spring semester. *Prerequisite: 9 hours of psychology or approval of instructor.*

#### 410r Advanced Topics in Personality Research (3)

Intensive study of selected topics of current theoretical and research interest in personality, abnormal psychology, and individual differences as they relate to personality. On demand. *Prerequisite: 101 or equivalent; 6 hours of upper division psychology, including 448; and approval of the instructor.*

#### 411 Experimental Analysis of Behavior (3)

A rigorous analysis of complex behavior from the standpoint of contemporary behavioral systems. On demand. *Prerequisites: 6 hours psychology.*

#### 412 Advanced Seminar for Psychological Processes (3)

A comprehensive review of the field as summary experience, especially for senior major students planning to enter graduate study. On demand. *Prerequisite: 18 hours of psychology or by approval of instructor.*

#### 421 Advanced Developmental Psychology (3)

An in-depth investigation of particular topics in human development, childhood through high school years. Focus on research methodology and findings in relation to social or cognitive development. On demand. *Prerequisites: 101 or equivalent, 221 or 222, or equivalent.*

#### 425 Psychology and Law (3)

A comprehensive review of how psychological theory and research influences social policy and law. Topics include, but are not limited to eyewitness memory, lie detection, jury behavior and selection, trial process, death penalty, children in the court, and the punishment and rehabilitation of criminals. Emphasis on psychologists' use of the scientific method to understand various phenomena related to legal processes. *Prerequisites: 6 hours of behavioral and social sciences; Mathematics 210 or Psychology 201 or equivalent; junior standing.*

#### 431 Advanced Social Psychology (3)

Intensive treatment of selected research areas in social psychology. Emphasis upon the interrelationship between current theoretical perspectives and appropriate methodological procedures. On demand. *May be registered as Sociology 431. Prerequisite: 331 or equivalent.*

#### 448 Theories of Personality (3)

Survey of basic theories of personality including the psychoanalytic, sociocultural, factor analytic, the biosocial, and the phenomenological. Strongly suggested for guidance majors. *Prerequisites: 6 hours of psychology.*

#### 451 Psychology of Women (3)

Analysis of empirical data and theoretical viewpoints concerning the psychological development of women. Psychological effects of sex roles, achievement motivation, and abilities of women; models of socialization practices, personality development, and stages of adjustment. Fall semester. *Prerequisite: 6 hours of psychology and junior standing. May be registered as WSTU 451. Credit not allowed in both Psychology 451 and Women's Studies 451.*

#### 456r Individual Practicum (1-3)

Supervised contact program in community schools or social service agencies.

Academic and personal development sought in the individual or small group activities conducted in this program. An activities log and final written report required. Every semester. *Prerequisites: 6 hours of upper division psychology and approval of instructor. Maximum credit 6 hours. Course graded on a satisfactory/no credit basis.*

#### 460 Systems of Psychology (3)

The historical development, major theses, elements of strength, shortcomings, and current trends of the principal schools of psychological thought. Reading and discussion course for psychology majors and graduate students. Every semester. *Prerequisites: 9 hours of psychology.*

#### 461 Philosophical Psychology (3)

Critical analysis of philosophical aspects of current systems of psychology. Particular focus upon assumptions and consequences of various modes of explanation and description. Fall semester.

#### 470 Psychology of Religion (3)

Analysis of empirical data and psychological theories involving religious beliefs, practices, and experiences. Every semester. *May be registered for as Religion 470. Prerequisites: 6 units psychology or philosophy-religion.*

#### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

#### 497r Research (1-4)

On demand.

#### 498r Individual Studies (1-4)

On demand.

#### 499r Group Studies (1-4)

On demand.

## Sociology, Anthropology, and Geography

Professor Nicholas Honerkamp, Acting Head

Any student in good standing with the University may be admitted to the major program. Students may earn either a B.A. degree or a B.S. degree with concentrations in either sociology or anthropology. In addition to the major programs, students may earn a minor in sociology, anthropology, or geography.

To enhance opportunities for the anthropology major and to provide services to the community, the University established the Institute of Archaeology in 1976. The institute is an instructional and research museum located in Brock Hall that specializes in archaeological investigations of 19th century industrial, domestic, and military sites. Students may use the collections and archives of the institute for academic projects. By enrolling in specified courses, students may also engage in archaeological survey and excavation, the analysis of archaeological data, the conservation of artifacts, and the organization of museum collections.

The department's Center for Applied Social Research also offers students the opportunity to participate in applied research projects.

## Sociology and Anthropology: Anthropology; Sociology (B.A.)



**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course; Sociology 250 recommended (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, other than Anthropology, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations other than Anthropology OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines other than Sociology and Anthropology (6 hours)

**Foreign Language:** Through second college year in one foreign language

**Completion of a minor** with a minimum 2.0 grade point average.

#### Major and Related Courses

One approved intensive writing course; English 279 recommended.

**Completion of one of following concentrations:**

### 1888 - Anthropology

33 hours of anthropology and sociology including Anthropology 152, 208, 210, 211, 302, 314 and 414; 3 hours of approved anthropology field and laboratory courses; 3 hours of sociology; additional hours of anthropology electives to complete concentration.

### 1892 - Sociology

33 hours of sociology and anthropology including Sociology 151, 312, 313, 314, 414; Anthropology 152 or 208; plus 15 hours of sociology/anthropology electives of which at least 9 hours are in sociology at the 300-400 level. These 15 hours must include at least 3 hours selected from Sociology 305, 307, 345.

2.0 average in all anthropology and sociology courses

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## Sociology and Anthropology: Anthropology; Sociology (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (Sociology 250 recommended) (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations other than Anthropology OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines, other than Sociology and Anthropology (6 hours)

#### Major and Related Courses

One approved intensive writing course; English 279 recommended.

**Completion of one of following concentrations:**

### 2880 - Anthropology

33 hours of anthropology and sociology including Anthropology 152, 208, 210, 211, 302, 314 and 414; 3 hours of approved anthropology field and laboratory courses; 3 hours of sociology; additional hours of anthropology electives to complete concentration.

### 2892 - Sociology

33 hours of sociology and anthropology including Sociology 151, 312, 313, 314, 414; Anthropology 152 or 208; plus 15 hours of sociology/anthropology electives (at least 9 hours at 300-400 level) with 12 of the 15 hours in sociology. These 15 hours must include at least 3 hours selected from Sociology 305, 307, 345.

2.0 average in all anthropology and sociology courses

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## SOCIOLOGY, ANTHROPOLOGY, & GEOGRAPHY MINORS

### 4660 - Sociology

A student may obtain a minor in sociology by successfully completing Sociology 151 plus 15 other hours in sociology, at least 9 of which are at the 300 or 400 level.

Total: 18 hours.

Minimum 2.0 average in all courses attempted for the minor.

### 4510 - Anthropology

A student may obtain a minor in anthropology by successfully completing Anthropology 152; 6 hours from Anthropology 208, 209, 210 and 211; and 9 hours of anthropology at the 300 or 400 level. Total: 18 hours. Minimum 2.0 average in all courses attempted for the minor.

### 4570 - Geography

A student may obtain a minor in geography by successfully completing Geography 101 and 104 plus 12 other hours in geography, at least 9 of which are at the 300 or 400 level.

Total: 18 hours.

Minimum 2.0 average in all courses attempted for the minor.

## ANTHROPOLOGY COURSES (ANTH)

### 152 Introduction to Anthropology (3)

Cultural and biological development of human society as interpreted by the anthropologist from the remains of prehistoric life and the culture of contemporary humans. Every semester.

### 199r Special Projects (1-4)

Individual or group projects. On demand. *Prerequisite: approval of Department Head.*

### 208 Cultural Anthropology (3)

The comparative study of culture, social organization, economics, government, education, religion, language, and arts in various primitive and present societies; cultural integration and change. Every semester.

### 207 Physical Anthropology (3)

An examination of the biological origins and current diversity of humans and their closest primate relatives (monkeys and apes). This is achieved through the scientific study of evolution, particularly human evolution, using genetics, fossils, animal studies and data on human variation through the world. Every semester. Lecture 3 hours.

### 210 Anthropological Linguistics (3)

A first course in the nature of language and the analysis of linguistic structures with special reference to non-Western languages. Fall semester.

**211 Introduction to Archaeology (3)**

The study of human prehistoric and historic past as derived from the archaeological record. Basic techniques, methods, theoretical approaches, and major conclusions of archaeological investigation. Every semester.

**229 Peoples and Cultures of Latin America (3)**

This course is a general introduction to the peoples and cultures of Latin America. Topics cover the sociopolitical and economic systems of indigenous peoples, rural-urban migration, peoples of the rainforests and their interaction with the local ecology, labor migration to the United States, and the survival of native culture in Latin America.

**302 Anthropological Theory (3)**

A systematic survey of the development of major theories in anthropology with particular attention to theories of culture. Spring semester. *Prerequisite: 9 hours of anthropology or approval of instructor.*

**305 Sex and Gender (3)**

Evolutionary and cross-cultural analysis of formation of sex and gender in human societies, with special focus on the relative status of women, and the development of masculine and feminine differences in communication and activities. *Prerequisite: Anthropology 152 or 207 or 208 or 210, or approval of instructor. May be registered as Women's Studies. 305. No credit for both Anthropology and Women's Studies 305.*

**306 World Prehistory (3)**

Topics of world archaeology, covering the Paleolithic in the old and new worlds and the search for the prerequisites of civilization. On demand.

**308 Applied Anthropology (3)**

A systematic inquiry of various applications of anthropology to solve human problems, both internationally and within the United States. Discussions include the history of applied anthropology, ethical considerations, methods and the roles of anthropologists in contemporary cultural and economic development. *Prerequisite: Anthropology 208 or approval of instructor.*

**311 Music of the World (3)**

See Music 311.

**314 Research Methods (3)**

See Sociology 314. Fall semester.

**315 Primate Behavior (3)**

A comparative survey of the ecology, social behavior, and cognitive ability of non-human primates, especially monkeys and apes, with emphasis on the evolutionary factors that have shaped primate behavior. *Prerequisites: Any of the following: Anthropology 152, Psychology 101, Anthropology 207 or approval of instructor. May be registered as Psychology 315. No credit in both Anthropology and Psychology 315.*

**320 Tennessee Archaeology (3)**

The archaeology of prehistoric and historic Tennessee. Based on archaeological research, an overview of the history of human occupation in the state of Tennessee is presented. Emphasis on local sites whenever possible. Every third semester. *Prerequisite: Anthropology 208 or 211 or 340 or approval of instructor.*

**328 The Archaeology of Latin America (3)**

This course is designed to familiarize students with the prehistory of their Latin American neighbors, highlighting some of the major cultural groups of Mexico, Guatemala and Belize, including the Olmec, Maya, Zapotec and Aztec. It will provide the foundation needed to understand contemporary Latin America, highlighting continuities between the region's prehistoric cultures and today's indigenous groups.

**330 Anthropology Through Film (3)**

Perspectives on cultural and biological anthropology through documentary film, Hollywood popular culture feature films, television, and other media. The theory and methods of anthropological filmmaking, and the analysis of documentary and Hollywood popular cultures films screened in class. Students will have the option of producing their own short documentary film. Every third semester. *Prerequisites: Anthropology 152 or 208 or approval of the instructor.*

**331 Chinese Society and Culture (3)**

This course provides a general introduction of the culture and social structure of China. Topics of discussions include the origin of the Chinese culture, family and social organization, religion, ideology, and tradition vs. modernization. Every third semester. *Prerequisites: Anthropology 208 or approval of the instructor.*

**332 Peoples and Cultures of Sub-Saharan Africa (3)**

Social and ethnological study of the peoples and cultures of Africa. Traditions and modernization analyzed in light of the contact with Western cultures. Similarities and differences among societies in Africa. African cultures compared and contrasted with the West. Every fourth semester.

**333 Peoples and Cultures of India (3)**

Social and ethnological study of the peoples and cultures of India. Traditions and modernization analyzed in the light of the contact with the Western cultures. Uniformity and diversity of society in India compared and contrasted with the West. Every fourth semester.

**334r American Indians (3)**

Prehistory, ethnography, and contact history of indigenous peoples of the New World. May be repeated for credit when different topics have been specified as topics for different semesters. Every third semester. *Prerequisite: any general education Behavioral or Social Science course or approval of instructor.*

**335 Archaeological Field Methods (3 or 6)**

Theory, method, and techniques of field research in archaeology, training and practice in surveying, photography, field recording, and other basic skills. Every summer. *Prerequisite: approval of instructor.*

**340 Southeastern Indians (3)**

Native Americans of the Southeast, their subsistence patterns, social organization, political structures, and belief systems, as derived from archaeological, documentary, and ethnographic sources. Emphasis is given to the late prehistoric and early historic periods. Every third semester. *Prerequisites: Anthropology 208 or 211, or approval of the instructor.*

**350 Sex, Gender, and Language (3)**

The role of language in the construction and expression of sex and gender in U.S. and other cultures. Topics include separate men's and women's languages; men's and women's different communication styles in intimate relationships, education, and the workplace; gender and identity; power; intimacy; sexual joking; and "silencing" of women. Every third semester.

**351 Language and Communication (3)**

The nature and evolution of communication, language, and speech. The relationship between language, culture, and society. Topics include nonverbal communication, animal communication, ethnolinguistics, and sociolinguistics. Every fourth semester.

**360 Ape Language (3)**

A review and critical analysis of sign language, speech, computer language, and other symbol studies with great apes and other intelligent animals. Examines the origins of culture, language, and intelligence in humans, and the ethical treatment of great apes and other intelligent animals in nature and under human care. *Prerequisites: Any of the following: Anthropology 152, 207 or Psychology 101, or approval of instructor. May be registered as Psychology 360. No credit in both Anthropology 360 and Psychology 360.*

**365 Medicine and Disease: A Cross-Cultural Perspective (3)**

See Sociology 365.

**366r Communications Laboratory (3)**

Laboratory methods and field techniques of research in human and animal communication. Individual or group projects. Every third semester. *Prerequisite: any general education Behavioral or social science course or approval of instructor.*

**410 Culture and Personality (3)**

The influence of cultural patterns upon the development of personality; materials from simple and complex societies; national and tribal character, and relevant theoretical viewpoints. Every third semester. *Prerequisites: 3 hours of sociology, anthropology, or psychology or approval of instructor.*

**412 Forensic Anthropology (3)**

An introduction to the application of physical anthropology in forensic investiga-

tions. Emphasis is given to the role of the forensic anthropologist within the environment of a medical examiner's office. Topics include the osteological assessments of age, sex, race, stature, trauma, pathology, taphonomy, and the estimation of the postmortem interval, combining lectures, readings, and anatomical laboratory exercises to understand the medicolegal importance of the human skeleton. Spring and Fall. *Prerequisite: 3 hours Anthropology or approval of instructor. Formerly ANTH 375.*

#### **414 Research Seminar (3)**

See Sociology 414. Spring semester.

#### **440 Social and Cultural Change (3)**

See Sociology 440. Formerly Anthropology 370.

#### **494 Anthropology Internship (3-6)**

Intended to provide majors an opportunity to experience "hands on" activities in a human services setting, learn the operation and policies of an agency, integrate classroom theory with practice, and develop the requisite competencies necessary for a sociological/anthropological practitioner. Prerequisites: Sociology 151 and 312 or Anthropology 152 and 302, junior standing, completed at least one semester at UTC, minimum cumulative GPA of 2.75, completion of additional Sociology/Anthropology courses relevant to the internship and approval of the internship coordinator

#### **495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)**

Every semester. See "Departmental Honors," page 39.

#### **497r Research (1-4)**

Every semester. *Prerequisite: approval of department head.*

#### **498r Individual Studies (1-4)**

Every semester. *Prerequisite: approval of department head.*

#### **499r Group Studies (1-4)**

On demand. *Prerequisite: approval of department head.*

### **GEOGRAPHY COURSES (GEOG)**

#### **101 Physical Geography (3)**

The physical environment with emphasis on processes that influence the distribution and pattern of landforms, water, climate, vegetation, and soil. Every semester.

#### **103 World Geography (3)**

Description and analysis of selected world regions, their internal characteristics and problems, and the nature of their interrelationships in a global context. Every semester.

#### **104 Cultural Geography (3)**

Systematic study of the distribution and locational processes of population, nutrition and health, disease, religion, agriculture, industry, cities, geopolitics, and other topics in human geography. Every semester.

#### **199r Special Projects (1-4)**

Individual or group projects. On demand.

#### **206 Atmosphere, Weather and Climate (3)**

The atmosphere about us and its interactions with human society. Atmospheric origin, composition, moisture, temperature, general circulation, and pollution problems. Jet streams and variations of weather and climate over time and space. Every fourth semester.

#### **221 Maps and Mapping (3)**

Introduction to types of maps, map construction, aerial photographs, remote sensing, digital image processing, computerized cartography, computerized map applications, and geographic information systems. Every semester.

#### **250 World Resources (3)**

Location, utilization, production, consumption, and significance of resources to society. Introduction to the vast, interlocking network of activities that produce and affect the world's use and consumption of resources. May be registered as Environmental Science 250. Credit not allowed in both Geography 250 and

Environmental Science 250.

#### **303 Geography of North America (3)**

Introduction to the physical and cultural geography of North America. Every fourth semester. *Prerequisite: Geography 103 or approval of instructor.*

#### **304 Geography of Latin America (3)**

A systematic and regional survey of Latin America and the Caribbean. Topics include Latin America issues, physical environments, aboriginal and colonial geography, agricultural, population growth and migration, the Latin American city, mining and manufacturing. The regional analyses focus on Mexico, Central America, the West Indies, Andean American, Brazil, and the Southern Cone. The unique perspectives of Latin Americans will be traced from pre-culture through language, films, music, and food activities. Every third semester. *Prerequisite: Geography 103 or 104 or approval of instructor.*

#### **305 Geography of Asia (3)**

Introduction to the physical and cultural geography of Asia. Every fourth semester. *Prerequisite: Geography 103 or approval of instructor.*

#### **306 Geography of Southeast United States (3)**

Introduction to the physical and human geography of Appalachia and the South. Topics to be emphasized using a geographic perspective include the natural environment, regional definitions, history, population, culture, economics and politics. *Prerequisite: Geography 104 or approval of instructor.*

#### **307 Geography of Europe (3)**

A regional analysis of contemporary Europe. The physical geography, population, the unrolling political map, economic and urban geography are examined prior to an in-depth study of the British Isles, Western Europe, the European North, Southern Europe, West Central Europe and East Central and Southeastern Europe. *Prerequisite: Geography 103 or approval of instructor.*

#### **407 Environmental Conservation (3)**

Theories, methods, and practices of environmental management and resource utilization. Emphasis on soil, forest, water, mineral, and human resources. Spring semester. *May be registered as Environmental Science 407. Credit not allowed in both Geography 407 and Environmental Science 407.*

#### **409 Economic Geography (3)**

Spatial influences on economic behavior, analysis of the location and spatial structure of world economic activities. *Prerequisite: Geography 104.*

#### **415 Urban Geography (3)**

History of urbanism, study of patterns of cities, spatial distribution of cities, and social and physical structure of cities of the Western world. Every third semester. *Prerequisite: Geography 104 or Sociology 151. May be registered as Sociology 415.*

#### **465 Remote Sensing and Imagery Analysis (3)**

Principles of aerial and satellite photography and infrared, multispectral, and microwave sensing. Interpretation of remotely sensed data, including application to problems in a variety of environmental sciences. Every fourth semester. Lecture 2 hours, laboratory 2 hours. *Prerequisites: Geography 221. Maybe registered as ESC 465.*

#### **466 Geographic Information Systems (3)**

Introduction to fundamental principles of geographic information systems (GIS). Applications, data structures and basic functions of GIS. GIS computer programs are used to demonstrate basic GIS functions. Every fourth semester. Lecture 2 hours, laboratory 2 hours. *Prerequisite: Geography 221. May be registered as ESC 466.*

#### **480 Geography Seminar (1)**

Seminar and discussion of topics of current interest in the geography. Student presentations required. On demand.

#### **495r Departmental Honors**

Every semester. See "Departmental Honors," page 39.

#### **496r Geography Field Camp (1-6)**

A field methods experience (the application of theory and techniques to field problems). On demand. *Prerequisites: at least 12 hours of geography courses.*

#### 497r Research (1-4)

Every semester.

#### 498r Individual Studies (1-4)

Every semester.

#### 499r Group Studies (1-4)

On demand.

### SOCIOLOGY COURSES (SOC)

#### 125 Sociology of Social Problems (3)

Sociological perspectives on selected contemporary social problems such as crime, poverty, hunger, racial and sexual discrimination, alcohol and drug abuse, the threat of war; examination of theories and research on social problems; analysis of possible solutions. Every second semester.

#### 151 Introduction to Sociology (3)

Scientific study of human society, of how individuals and groups adjust to each other and to their social environment; examination of varying research approaches; consideration of basic concepts, theories, and principles of explanation used by sociologists. Every semester.

#### 199r Special Projects (1-4)

Individual or group projects. On demand.

#### 209 Population and Society (3)

The study of population growth and decline, composition and distribution, and the interrelated effects of economics, social structures, and environment resources. Special emphasis is placed on problems of urbanization and population policies. Every third semester.

#### 215 The Sociology of the Family (3)

The study of modern marriage and family institutions from sociological and social psychological perspectives; the social factors of mate selection, kinship relationships and sexual behavior; evaluations of research findings and emerging trends. Every semester.

#### 219 Deviance and Conformity (3)

A social and social psychological introduction to the nature and consequences of "normal" and "deviant" behavior. Theories of deviance with particular attention to role theory and labeling theory in the areas of crime and mental illness. Every third semester.

#### 220 Small Group Behavior (3)

Social relationships and interaction within small groups in various contexts; review of major field and laboratory studies on leadership, communication, problem-solving, and personal satisfactions; experience in techniques of observation, role playing, and sociometric research. Every fourth semester.

#### 250 Social Statistics (3)

Basic statistical techniques such as frequency distributions and graphs, the normal curve, tests of significance, correlation, simple analysis of variance, and applications to sociocultural data and their interpretation. Spring semester. *Prerequisite: Two years of high school algebra and UTC Math Placement Level 20 or Math 106 with minimum grade of C. Credit not allowed in 250 after any other statistics course.*

#### 300 Urban Sociology (3)

Analysis of how urban areas grow and are spatially organized. Examination of the cultures, social stratification systems, and modes of governance in contemporary American cities. Emphasis on urban problems. Every third semester. *Prerequisite: any general education Behavioral and Social Science course or approval of instructor.*

#### 305 Minorities in American Life (3)

Character and role of racial, religious, and ethnic minorities in the U.S.; the interplay of historical and current sociocultural processes on attitudes and behavior for both dominant and minority groups; minority-related social problems and their possibilities of solution. Spring semester. *Prerequisite: any general education Behavioral and Social Science course or approval of instructor.*

#### 307 Gender and Society (3)

Analysis of how ideas about gender are socially constructed and the importance of women-centered theories on this approach; the interplay of gender and various social structures including education, religion, politics, family, health, work and sexuality. *Prerequisite: 3 hours Anthropology or approval of instructor. May be registered as Sociology 307. Credit not allowed in both Sociology and Women's Studies 307.*

#### 310 Sociology of Religion (3)

Social and cultural interpretations of religious institutions and the relation of religion to the social order; major emphasis upon theory and research in the context of Western Christian civilization. Every fourth semester. *Prerequisite: any general education Behavioral and Social Science course, philosophy or religion, or approval of instructor.*

#### 312 Classical Social Theory (3)

A systematic examination of the important classical social theorists. Those theorists who have had enduring historical and/or theoretical importance will be emphasized. Topics include: Auguste Comte, Herbert Spencer, Karl Marx, Max Weber, Emile Durkheim, George Simmel, George Herbert Mead, Alfred Schutz and Karl Mannheim. Every fall semester. *Prerequisites: Sociology 151.*

#### 313 Modern Social Theory (3)

A systematic examination of the important theoretical schools of thought. Ideas that have important implications for the modern world will be emphasized. Topics include: structural functionalism, conflict theory, symbolic interactionism, the critical school, neo-Marxian theory, feminist theory, identity theory, queer theory, postmodern theory, and metatheory. Every spring semester. *Prerequisite: Sociology 312.*

#### 314 Research Methods (3)

The nature of the scientific method and research as applied to the collection, analysis, and interpretation of social and cultural data. An introduction to selected basic techniques in research and the preparation of research proposals. Fall semester. *Prerequisite: A statistics course (Sociology 250 recommended); Sociology 151, or Anthropology 152 or 208, or approval of instructor. May be registered as Anthropology 314. Credit not allowed in both Sociology 314 and Anthropology 314.*

#### 317 Organizational Behavior (3)

Structure of social relationships in organizational life: common patterns in development and operation of bureaucratic systems and their effect upon personal values and individual behavior applications in modern education, industry, government, and institutional life. Every third semester. *Prerequisite: any general education Behavioral and Social Science course or approval of instructor.*

#### 318 Industrial Sociology (3)

Social organization and process within the formal and informal structure of the industrial unit, evolution of stratification systems, the Industrial Revolution, bureaucratization and the individual, the implications of industrialization and urbanization for human relations in the work process. Every fourth semester. *Prerequisite: any general education Behavioral and Social Science course or approval of instructor.*

#### 319 Work and Society

In this course, students will gain a critical understanding of one of the most dominant spheres in society by examining the world of work. *Prerequisite: Any general education Behavioral or Social Science course, or approval of instructor.*

#### 321 Criminology (3)

The nature of crime, criminal statistics, causal factors, theories and procedures in prevention and treatment. Every third semester. *Prerequisite: any general education Behavioral and Social Science course or approval of instructor.*

#### 322 Juvenile Delinquency (3)

The nature of juvenile delinquency; factors contributing to delinquency; methods of diagnosis and treatment of delinquent behavior; prevention of delinquency. Spring semester. *Prerequisite: any general education Behavioral and Social Science course or approval of instructor.*

#### 323 Sociology of Corrections (3)

Historical and cross-cultural study of adult detention, punishment, and rehabilitation systems. Examination of political and social values as they relate to corrections. Every fourth semester. *Prerequisite: any general education Behavioral and*

*Social Science course or approval of instructor.*

### 331 Social Psychology (3)

Every semester. See Psychology 331.

### 335 History of Social Thought (3)

Trends in beliefs and values regarding human society and social interaction from ancient times through the mid-19th century. Emphasis on the interrelationships between social thought and social context. Every fourth semester. *Prerequisite: 3 hours Sociology or approval of instructor.*

### 345 Social Inequality (3)

Examination of the causes and consequences of inequality including the distribution of resources and opportunities, both comparatively and historically; the systematic disadvantages associated with race, gender, wealth and income; and the major theoretical perspectives addressing inequality in society. Every other semester. *Prerequisite: any general education Behavioral and Social Science course or approval of instructor.*

### 350 Social Change and Globalization (3)

Examination of social change and globalization utilizing sociological insights to understand the impact of rapid changes on human cultures and social institutions through the world. *Prerequisites: two Behavioral and Social Sciences courses or approval of instructor.*

### 360 Sociology of Aging (3)

A basic course in social gerontology. The process of aging and the problems of the aged. Changing values and institutional responses to the aged. Every fourth semester. *Prerequisite: any general education Behavioral and Social Science course or approval of instructor.*

### 365 Medicine and Disease: A Cross-Cultural Perspective (3)

Cross-cultural study of medicine and disease; the relationship between the development of medicines and medical care, including non-Western medical systems, and cultural beliefs, social systems, ecological adaptations, and cultural changes of human groups. *May be registered as Anthropology 365. Credit not allowed in both Sociology 365 and Anthropology 365.*

### 414 Research Seminar (3)

The use of social research techniques to report on social and cultural phenomena; data collection and analysis, writing of a research report. Research project required of all students. Spring semester. *Prerequisites: Sociology 314 or Anthropology 314. May be registered as Anthropology 414. Credit not allowed in both Sociology 414 and Anthropology 414.*

### 415 Urban Geography (3)

Every third semester. See Geography 415

### 424 Applied Social Research (3)

Examination of the various issues faced by applied social researchers when developing a framework for conducting the research and when determining which data collection and analysis methods are most suitable given the research objectives and needs of the client. Focus on both quantitative and qualitative methods, but with special emphasis on the latter. Every second semester. *Prerequisite: Sociology 314 or Psychology 202 or Political Science 200 or other approved course in social research.*

### 425 Advanced Sociology of the Family (3)

Examination of selected topics in the sociology of the family. Emphasis on the interaction between the family and the society. Special attention given to power relationships and gender roles in marriage and the family. Every fourth semester. *Prerequisite: 215, or Human Ecology 205 or 340, or Social Work 210, or approval of the instructor.*

### 430 Intergroup Dynamics (3)

Social and psychological aspects of prejudice, discrimination, and minority relations; effects of shifting social, economic, and power relationships; and examinations of varying strategies aimed at change, and their consequences. Every fourth semester. *Prerequisite: Sociology 305 or approval of instructor.*

### 431 Advanced Social Psychology (3)

Spring semester. See Psychology 431.

### 440 Social and Cultural Change (3)

How cultures develop, mature, and face disruption or decline, stability, and change; special attention to technological change, "cultural lag," and problems of developing nations and peasant societies. Every fourth semester. Formerly 370. *Prerequisite: 3 hours of sociology or anthropology or approval of instructor. May be registered as Anthropology 440. Credit not allowed in both Sociology and Anthropology 440.*

### 470r Special Studies and Problems (1-3)

Investigation and reporting on specialized topics in research or theory under faculty direction. Primarily for seniors. On demand. *Prerequisite: approval of instructor. Maximum credit 6 hours.*

### 494 Sociology Internship (3-6)

Intended to provide majors an opportunity to experience "hands on" activities in a human services setting, learn the operation and policies of an agency, integrate classroom theory with practice, and develop the requisite competencies necessary for a sociological/anthropological practitioner. *Prerequisites: Sociology 151 and 312 or Anthropology 152 and 302, junior standing, completed at least one semester at UTC, minimum cumulative GPA of 2.75, completion of additional Sociology/Anthropology courses relevant to the internship and approval of the internship coordinator.*

### 495r Departmental Honors

**(1-3 hours per term, 4 hours for the two terms)**

Every semester. See "Departmental Honors," page 39.

### 497r Research (1-4)

Every semester.

### 498r Individual Studies (1-4)

Every semester.

### 499r Group Studies (1-4)

Every semester.

## Spanish

See Foreign Languages and Literatures, page 70.

## Theatre and Speech

Professor Robert Duffy, Head

The Department of Theatre and Speech offers a curriculum that leads to a Bachelor of Arts degree with a major in Theatre and a Bachelor of Science degree with a major in Theatre Education. It seeks to promote an understanding of cultural history, an appreciation of meaning and form, a respect for and a facility with language, a sense of responsibility for the larger human community, and a firm grounding in the discipline and the creative processes involved in the making of theatre.

Through its curriculum and public season of performance the department is committed to exposure to and enhanced appreciation of the art of the theatre and the related arts of film and dance. The department provides the means for involvement in the art of theatre for interested members of the University community.

Courses designed to develop basic competency in oral communication are regularly offered by the department.

Students may elect to take specified courses leading to state licensure to teach theatre at the primary and secondary level.

## 1930 - Theatre (B.A.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composi-

tion (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either other than Theatre and Speech. (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses in two different disciplines (6 hours)

**Foreign Language:** Through second college year in one foreign language

**Completion of a minor** with a minimum 2.0 grade point average

### Major and Related Courses

One computer literacy course from Business Management 100, Computer Science 110, 150

2-3 hours from Theatre and Speech 125 or 225, or 2 EHLS activity courses

6 hours design and technical theatre: 141, 143

3 hours acting: 221

6 hours directing: 331, 431

9 hours dramatic literature and theatre history: 151, 255, 257

9 hours of approved theatre and speech electives selected from 343, 423, 450, 457, 459, 461r, and 463r

6 hours (6 semesters) of performance and production: 2 hours each of 200r, 300r, and 400r

2.0 average in all theatre and speech courses

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## 2930 - Theatre Education K-12 (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** 2 approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Art 301, Music 111 (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social sciences courses in two different disciplines (6 hours)

### Major and Related Courses

Psychology 221 or 222 or Human Ecology 242

6 hours design and technical theatre: 141, 143;

3 hours acting: 221;

6 hours directing: 331, 431;

6 hours of theatre education from: 465r, 412;

12 hours dramatic literature and theatre history: 151, 255, 257, 457;

6 hours (6 semesters) of performance and production: 2 hours each of 200r, 300r, 400r;

3 hours approved theatre and speech electives selected from 125, 225, 343, 423, 450, 459, 461r, 463r

25 hours from the College of Education and Applied Professional Studies including Education 201, 321 or 323, 400, 433, 444

University Studies 330

For graduation: 2.0 average in all Theatre and Speech courses and 2.0 average in College of Education and Applied Professional Studies.

For licensure 2.5 average cumulative, 2.5 at UTC, 2.5 average in education courses with no grade lower than C, 2.5 in content area courses with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## THEATRE AND SPEECH MINORS

### 4670 - Theatre

18 hours including Theatre and Speech 151 and 3 hours from 121, 141, 143, 221, 255 or 257; 9 hours from Theatre and Speech 343, 423, 450, 457, Classics 395, 397; English 420, 421; 1 hour of 100r and 2 hours of 200r.

Minimum 8 hours at the 300-400 level.

Minimum 2.0 average in the minor.

### 4545 - Drama

18 hours including Theatre and Speech 151, 255, 257, and 457; 6 hours from Theatre and Speech 450, 485, Classics 395, 397, English 420, 421, or 435.

Minimum 8 hours at the 300-400 level.

Minimum 2.0 average in the minor.

### 4665 - Speech

9 hours from Theatre and Speech 107, 108, 109, 110, 209, 210, Communication 101; 9 hours from Theatre and Speech 307, 308, 309, 463, Communication 320

Minimum 8 hours at the 300-400 level.

Minimum 2.0 average in the minor.

## THEATRE AND SPEECH COURSES (THSP)

### 100r Performance and Production (1)

Introductory laboratory course in performance and production. Prerequisite: Approval of department head. Graded by faculty jury. May be repeated for credit.

### 107 Voice and Diction (3)

Systematic training of the speaking voice for controlled articulation, volume, and tone in interpersonal communication. Every semester.

### 108 Oral Interpretation (3)

Systematic teaching of the principles and skills of effective oral reading with a continuing study of voice and diction. On demand.

### 109 Public Speaking (3)

Practical application of the principles of public speaking and group discussion. Every semester.

### 110 Speaking Through Performance (3)

Instruction and practice in the application of imaginative processes and performance skills with observation and research in the creation of effective and expressive oral presentation.

### 111 Introduction to the Theatre (3)

A study of the theatre and its drama; examination of selected plays as representative types of drama, as products of a cultural milieu, and as works intended for performance. Designed to heighten the student's perception, appreciation, and enjoyment of a variety of forms of theatre in performance. Every semester.

### 113 Introduction to Dance (3)

An introductory study of dance forms and function and of specific practices in a range of different cultures. Designed to heighten the student's understanding and appreciation of how dance expresses aesthetic values and how it embodies social, religious and political values.

### 115 Theatre: Introduction to Performance (3)

Introduction to acting and use of total instrument of the theatre. Emphasis upon dramatic theory and literature and their relationship to performance. Every semester.

### 121 Beginning Acting (3)

The basic principles of acting. On demand.

### 125 Dance Technique I (3)

A studio introduction to dance including physical and musical disciplines, form, style, and standard professional practice. On demand.

**141 Theatre Practice and Theory (3)**

Introduction to production organization. Survey and application of technologies, materials, and techniques of theatrical production. Fall semester.

**143 Basic Design in Theatre (3)**

Introduction to the principles and practices of designing theatrical environments and costumes for plays. Study and practice in analysis of various styles and types of plays; basic visual and spatial principles; developing theatrical imagery; and communicating design ideas. Spring semester.

**151 Play Analysis (3)**

Nature of drama and theatre in its historical context with emphasis upon analysis of play scripts as the basis for creation of theatrical images. Formerly 105. Fall semester.

**199r Special Projects (1-4)**

Individual or group projects. Every semester. Maximum credit 4 hours.

**200r Performance and Production (1)**

Lower division laboratory course in all aspects of theatre performance and production. Project assignments in departmental productions and workshops. Every semester. *Prerequisite: approval of department head. Graded by faculty jury. May be repeated for credit.*

**209 Business and Professional Speech Communication (3)**

Study of the modes and processes of speech communication in organizations. Development of individual skills in group interaction and decision-making as well as informative and persuasive speech. On demand.

**210 Interpersonal Communication (3)**

Examination of the basic theories and practices of face-to-face communication: how communication messages are designed, produced, exchanged, and interpreted in a variety of interpersonal contexts. Practical exercises in speech communication will be required.

**221 Acting I (3)**

Fundamentals of acting and of speech for the theatre. Formerly 227. Fall semester. *Prerequisite: 151 and/or approval of instructor. Corequisite: 200r.*

**225 Dance Technique II (3)**

A studio course for students with previous training in dance. Attention to choreography. On demand. *Prerequisite: Theatre and Speech 125 or approval of instructor.*

**230 Contemporary Francophone African Cinema (3)**

See Modern Language 230.

**255 The Theatre to the Renaissance (3)**

History of the theatre as an art and as an institution from its beginnings to the 17th century. Fall semester. *Prerequisite: 151 or approval of instructor.*

**257 The Theatre from the Renaissance to the 20th Century (3)**

History of the theatre as an art and as an institution from the Renaissance to the 20th century. Spring semester. *Prerequisite: 151 or approval of instructor.*

**259r Playwrights' Seminar (2)**

Development of the playwright's craft through exercises in dramatic writing, critique, and examination of dramaturgical principles. On demand. *Prerequisites: Theatre and Speech 151, 255 or 257, or approval of the instructor. May be repeated for up to 6 hours credit.*

**280 Introduction to Film (3)**

The history and language of motion pictures studied by viewing and analyzing selected film masterpieces and the ideas they explore. Every semester.

**300r Performance and Production (1)**

Upper division laboratory course in all aspects of theatre performance and production. Project assignments in departmental productions and workshops. Every semester. *Prerequisite: 2 semesters of 200r and approval of department head. Graded by faculty jury. May be repeated only once for credit.*

**307 Advocacy and Debate (3)**

A study of contemporary procedures in deliberation, persuasion, and debate utilizing current topics of public interest. Emphasis on the development of individual skills in rational decision-making and advocacy through actual experiences in intercollegiate and parliamentary forms of debate. Formerly 320. On demand.

**308 Readers' Theatre (3)**

The study of literature through group performance and the development of skilled verbal and nonverbal expression based on the critical examination of written texts. On demand.

**309 Contemporary Public Speech Communication: Concepts and Cases (3)**

Study of rhetorical principles employed in addresses by contemporary leaders concerning significant current questions: practice in the application of rhetorical principles in speeches and oral reports. On demand.

**331 Directing I (3)**

Basic elements of play directing: play analysis, director-actor communication, and the uses of improvisation. Each student will direct a short scene and participate in diagnostic criticism. Formerly 317. Fall semester. *Prerequisites: 143, 255, 257, and approval of instructor. Corequisite: 300r or 400r.*

**340 Theatre Arts for Children (1)**

Implementation of discipline-based theatre arts concepts and creative drama techniques for the child. Laboratories in addition to regularly scheduled classes will be included. Fall and Spring semester. *Prerequisites: Theatre and Speech 115, Psychology 221 OR Human Ecology 240, Music 111, Art 301. Corequisites Music 340, Art 340.*

**343 History of Costume (3)**

Study of wearing apparel, principally in the western world from ancient Egypt to the present with a particular emphasis on clothing as a reflection of the cultural milieu. Formerly 313. Spring semester alternate years.

**400r Performance and Production (1)**

Upper division laboratory course in all aspects of theatre performance and production. Projects assigned in departmental productions and workshops. Every semester. *Prerequisite: 2 semesters of 300r and approval of department head. Graded by faculty jury. May be repeated only once for credit.*

**412 Theatre for Youth (3)**

All phases of producing plays for or by junior audiences examined, including the techniques of creative dramatics. On demand.

**423 Advanced Problems in Acting (3)**

Further development of the actor's instrument with emphasis upon performance style in the theatre. Spring semester alternate years. *Prerequisites: Theatre and Speech 151, 221, 2 semesters of 200r and/or approval of instructor. Pre- or Corequisite: THSP 300r.*

**431 Directing II (3)**

Directing of short scenes for laboratory presentation and participation in diagnostic criticism. Spring semester. *Prerequisite: 331 and approval of instructor. Corequisite: 300r or 400r.*

**450r Topics in Drama and Theatre (3)**

Study of dramatic genres, dramaturgy, playwrights, theatre and performance theory, applications and/or interpretations by theatre artists. A specified topic will be listed in course schedule. On demand. *May be repeated for up to 6 hours credit when specified topics differ.*

**457 Conceptual Foundations of the Modern Theatre (3)**

Studies in the concepts of selected playwrights, directors, and designers who helped to shape the directions of the twentieth-century theatre and its drama. Spring semester alternate years. *Prerequisite: approval of instructor.*

**459 Playwrights' Workshop (2)**

Use of rehearsal, performance, and production process for the development of student writing for the stage. On demand. *Prerequisites: Theatre and Speech 259r,*

331, 300r and/or approval of instructor.

#### 461r Directed Studies in Advanced Production (1-4)

Advanced problems in design and technical theatre. On demand. *Prerequisite: approval of department head. May be repeated for credit.*

#### 463r Directed Studies in Advanced Performance (1-4)

Advanced problems in acting, directing, and musical theatre. On demand. *Prerequisite: approval of department head. May be repeated for credit.*

#### 465r Directed Studies in Theatre Education (1-4)

Problems in teaching theatre, creative drama, arts integration, etc., to K-12 students. On demand. *Prerequisite: Approval of Department Head. May be repeated for up to six hours credit.*

#### 485 Film Topics (3)

Directors, genres, styles, or theories of film studied by viewing and analyzing representative films. On demand.

#### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

#### 497r Research (1-4)

On demand.

#### 498r Individual Studies (1-4)

On demand.

#### 499r Group Studies (1-4)

On demand.

### University Studies

See Interdisciplinary Studies, page 78.

# University Honors Program

Professor Gregory O'Dea, *Director*

Enrollment in courses taught in the curriculum of the University Honors Program is restricted to members of the University Honors Program. The following courses make up the required curriculum for all members.

#### Freshman

University Honors 100r (0)

University Honors 101 (6)

University Honors 102 (6)

University Honors 120 (3)

#### Sophomore

University Honors 200r (0)

University Honors 214 (3)

At least 4 hours from University Honors 103, 104, 105, 106 or 199

3 hours from University Honors 216, 217, 218, 219

#### Junior

University Honors 300r (0)

University Honors 315 (3)

University Honors 316 (3)

#### Senior

University Honors 400r (0)

Departmental Honors 495r (4)

NOTE: Requirements for the selected degree and major program must be met. With approval, students in certain degree programs may alter the UHON curriculum schedule and/or extend their study beyond the fourth year in order to complete both UHON and degree program requirements. UHON students must complete the appropriate Honors Studies course (100, 200, 300, 400) each semester in residence.

For further information, contact the University Honors Program Office, 202 Guerry.

### UNIVERSITY HONORS COURSES (UHON)

#### 100r Freshman Honors Studies (0)

An introduction to the nature of University Honors education and a general orientation to the functions and resources of the University and the honors program. Designed to help University Honors freshmen better understand the Honors program curriculum, requirements, expectations, and procedures, to be familiar with University resources, and to prepare them to enter effectively into the intellectual life of the University. Fall and Spring semesters. Courses graded on a Satisfactory/No credit basis. Limited to University Honors Program students. Required in the first and second semester of the freshman year.

#### 101, 102 Humanities I & II (6,6)

Selected authors from the traditional corpus of Western literature with emphasis on historical and intellectual contexts; analysis of specific texts through seminar discussion and written work. 101 fall/102 spring semester. Limited to University Honors Program students; others with approval of instructor.

#### 103 Fine Arts: Music History and Aesthetics (3)

A general review of the aesthetics and history of Western concert music. Limited to University Honors Program students; others with approval of instructor.

#### 104 Introduction to Art (3)

Consideration of the formal elements, design principles, and technical factors in the production of works of visual art. Examination of selected works representative of a broad range of functions, forms, styles, and artistic intentions. Comparisons between works of different periods. Designed to heighten perception, appreciation, and enjoyment of the visual arts. Limited to University Honors Program students; others with approval of instructor.

#### 105 Introduction to the Theatre (3)

A study of the theatre and its drama; examination of selected plays as representative types of drama, as products of a cultural milieu, and as works intended for performance. Special emphasis on acting and direction. Designed to heighten perception, appreciation, and enjoyment of a variety of forms of theatre. Limited to University Honors Program students; others with approval of instructor.

#### 106 Film Studies (3)

A consideration of the formal elements, terminology, and development of film, through an overview of the history and aesthetics of Western cinema. Limited to University Honors Program students; others with approval of instructor.

#### 120 Development of Scientific Thought (3)

Selected topics in history of science designed to illustrate the methods by which science progresses. Scientists and their struggle with society will form the background for study for this course. Limited to University Honors Program students; others with approval of instructor.

#### 199r Special Projects (1-4)

Individual or group project. On demand. Maximum credit 4 hours.

#### 200r Sophomore Honors Studies (0)

Introduction in University Honors Program mentoring, involvement in the life and leadership of the University, and study abroad opportunities. Designed to



help University Honors sophomores better understand their chosen academic disciplines, their roles as mentors to beginning students, the benefits and responsibilities of involvement in the University's student governance, committee work, campus organizations, the value of community service, and opportunities for undergraduate education abroad. Fall and Spring semesters. Courses graded on a Satisfactorily/No credit basis. Limited to University Honors Program students. Required in the first and second semester of the sophomore year.

### **214 Classical and Medieval Historical and Political Thought (3)**

Critical analysis of the origin and development of Western historical, political, and social theory from antiquity to the early Renaissance. Readings from the works of the central figures of the Greek city-state, Roman Empire, Medieval Church, and Renaissance Europe, including Herodotus, Thucydides, Plato, Aristotle, Livy, Tacitus, Plutarch, Augustine, Aquinas, and Machiavelli. Consideration of Gibbon as representative of historical interpretation. Limited to University Honors Program students; others with approval of instructor.

### **216 Traditions of Latin America (3)**

A study of the major historical and cultural traditions of Latin America, from the Aztec/Mexico and Inca Empires through the colonial and independence periods. Emphasis on the key factors that contributed to the development of Latin American nations. Readings include scholarly books and articles, literary analysis, and primary text material, supplemented with films, art, and music. Limited to University Honors Program students; others with approval of instructor. Prerequisite: University Honors 101 or Western Humanities I.

### **217 The Chinese and Japanese Traditions (3)**

Readings of central texts in East Asian civilization, including Confucianism, Legalism, Taoism, Buddhism, and Zen, as well as great works of literature. Discussion of texts and written analysis to facilitate comparisons with western thought. An appreciation of different intellectual traditions is a major goal. Limited to University Honors Program students; others with approval of instructor.

### **218 The Tradition of India (3)**

A study of Indian culture through a reading of texts selected from classical and modern Indian literature, supplemented by lecture, audiovisual materials, and library materials. Limited to University Honors Program students; others with approval of instructor.

### **219 Africa Through Its Literature (3)**

A study of the sociocultural, historical, and political dynamics of the continent and its peoples through reading, discussion, and analysis of African literary works by and about Africans. Limited to University Honors Program students; others with approval of instructor.

### **300r Junior Honors Studies (0)**

Introduction in planning for the Departmental Honors (DHON) project. Designed to prepare students for intensive, extended research projects in their disciplines by workshops and discussions on discipline-specific library research, topic focus and development, advisor and committee selections, proposal development and writing, and project scheduling. Fall and Spring semesters. Courses graded on Satisfactory/No Credit basis. Limited to University Honors Program students. Required in the first and second semester of the junior year.

### **315 Origins of the Social Sciences (3)**

Analysis of the origins, development and nature of the social sciences using contemporary theories and methodologies. Core texts from seminal thinkers such as Luther, Locke, Rousseau, Marx, and Durkheim will be used as case studies of the developing modern social and human sciences. Every semester. Limited to University Honors Program students; others with approval of instructor. Prerequisite: 214.

### **316 Contemporary Social Science (3)**

The theory, methods and findings of contemporary empirical social science with an emphasis on social scientific understandings of individuals in the context of cultures and societies. Core texts from such authors as Marx, Freud, Weber and Levi-Strauss. Every semester. Limited to University Honors Program students; others with approval of instructor. Prerequisites: 214, 315.

### **400r Senior Honors Studies (0)**

Introduction in the timely execution of the Departmental honors (DHON) proj-

ect and planning for the post-baccalaureate world. Designed to address such matters as scheduling, deadlines and formation of the DHON project, planning for graduate and professional school, and career placement skills. Fall and Spring semesters. Courses graded on Satisfactory/No Credit basis. Limited to University Honors Program students. Required in the first and second semester of the senior year and all additional semesters in residence.

### **497r Research (1-4)**

On demand.

### **498r Individual Studies (1-4)**

On demand.

### **499r Group Studies (1-4)**

On demand.

# College of Business

Professor Richard Casavant, Dean



The College of Business of The University of Tennessee at Chattanooga is committed to providing quality educational programs that prepare students for managerial, professional, or entrepreneurial opportunities. The College offers undergraduate degree programs in accounting, finance, entrepreneurship, management and marketing. At the graduate level, the Master of Business Administration, Executive MBA and Master of Accountancy programs prepare students for management and accounting positions of increasing responsibility.

As a College within a state-supported metropolitan University with financial support from the business community, we recognize our responsibility to:

- Provide students with the knowledge, business skills and professional training necessary for success
- Engage in business research that serves the needs and interests of business and management, and support pedagogical research to enhance the education process.
- Provide service to the University, academic profession and Chattanooga community.

The College is committed to the principles of diversity so that varied and diverse viewpoints are appreciated and valued.

To fulfill its mission the College seeks the support and participation of students, faculty, and community leaders in educational programs, research activities, and community and professional service that provide mutual benefit to all stakeholders through the sharing of knowledge, experience, and insight. In all its initiatives the College strives to foster progressive innovation and an entrepreneurial spirit.

The curricula also provide essential skills for employment opportunities in related career fields. Career preparation is offered in the following areas:

Accounting  
Entrepreneurship  
Finance  
General Management  
Industrial Management  
Human Resource Management  
Marketing

The College also offers minors in business administration, entrepreneurship and promotion. A student who is not seeking a major in business administration may only complete a maximum of 30 hours in the College of Business.

The College is organized into three departments, Accounting and Finance, Management, and Marketing and Entrepreneurship. It offers three degree programs: Bachelor of Science with a major in business administration and concentrations in accounting, finance, general management, industrial management, human resource management, marketing, and entrepreneurship; Master of Business Administration; and Master of Accountancy.

These degree programs are accredited by AACSB International - The Association to Advance Collegiate Schools of Business.

The letter B used before a course name is an abbreviation for "Business." Example: B(usiness) Accounting.

# Accounting and Finance

Professor Kaye McClung, Head

The Department of Accounting and Finance offers concentrations designed to prepare students for positions in the profit and nonprofit sectors. The Bachelor of Science degree in Business Administration may be obtained with concentrations in Accounting or Finance.

The mission of the Department of Accounting and Finance at the undergraduate level is to:

1. Advance the mission of the College of Business;
2. Provide students majoring in accounting or finance an opportunity to acquire the knowledge and skills necessary for success in an accounting/finance career or graduate program;
3. Provide students majoring in other business disciplines an opportunity to acquire basic accounting and finance knowledge and skills;
4. Provide fundamental accounting and financial knowledge to nonbusiness students seeking to enhance personal skills or achieve individual career objectives.

The Department of Accounting and Finance is committed to providing high-quality educational programs supported by ongoing faculty research and active participation in community and professional organizations.

## 2006 - Business Administration: Accounting (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 131\* (3 hours)

**Statistics:** Management 211 \*(3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: One approved Western Humanities course and one approved Non-Western Cultures and Civilizations course OR Option B: two approved World Civilization courses (6 hours)

**Behavioral and Social Sciences:** One course from Economics 101 or 102 and one course from Anthropology 152, Political Science 101, Psychology 101, or Sociology 151\* (6 hours)

### Major and Related Courses

Economics 101, 102 and one course from Anthropology 152, Political Science 101, Psychology 101, or Sociology 151; †

Management 100; Mathematics 131† and 136 (if exempted from Mathematics 131, student must take Mathematics 136); Theatre and Speech 109; one course from Management 310, English 300 or English 410;

31 hours from the College of Business including Accounting 201, 202, 335; Finance 302; Management 211†, 212, 311, 315, 440, 441; Marketing 313

### Accounting Concentration

21 hours from the College of Business including: Accounting 300, 301, 302, 305, 307, 405, 408

12 hours: 6-9 hours chosen from Accounting 306, 401, 406, 407, 411, 412, 452; 3-6 hours chosen from 300 or 400 level Finance course Accounting 336; Economics 301, 429; Management 356

2.0 average in all Accounting courses.

Electives to complete 120 hours.

A minimum of 54 hours of the 120 total must be taken at the 300-400 level.

Maximum of 69 hours total accepted in College of Business courses; i.e., at least 51 hours other than College of Business courses must be completed.

At least 50 percent of the business credit hours required for the B.S. degree in Business Administration must be earned at UTC.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

†Also satisfies general education requirement.

## 2007 - Business Administration: Finance (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 131\* (3 hours)

**Statistics:** Management 211\* (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** 2 approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: One approved Western Humanities course and one approved Non-Western Cultures and Civilizations course OR Option B: two approved World Civilization courses (6 hours)

**Behavioral and Social Sciences:** One course from Economics 101 or 102 and one course from Anthropology 152, Political Science 101, Psychology 101, or Sociology 151\* (6 hours)

### Major and Related Courses

Economics 101, 102 and one course from Anthropology 152, Political Science 101, Psychology 101, or Sociology 151; †

Management 100; Mathematics 131† and 136 (if exempted from Mathematics 131, student must take Mathematics 136); Theatre and Speech 109; one course from Management 310, English 300 or English 410;

31 hours from the College of Business including: Accounting 201, 202, 335; Finance 302; Management 211†, 212, 311, 315, 440, 441; Marketing 313

### Finance Concentration

18 hours including Finance 318, 320, 321, 412, 421, 423

Accounting 312, 408

3 hours chosen from any 300 or 400 level Accounting or Finance course

6 hours chosen from any 300 or 400 level course in Accounting, Economics, Entrepreneurship, Finance, Management or Marketing

2.0 average in all Finance courses.

Electives to complete 120 hours.

A minimum of 54 hours of the 120 total must be taken at the 300-400 level.

Maximum of 69 hours accepted in the College of Business courses; i.e., at least 51 hours other than College of Business courses must be completed.

At least 50 percent of the business credit hours required for the B.S. degree in Business Administration must be earned at UTC.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

†Also satisfies general education requirement.

## ACCOUNTING COURSES (BACC)

### 200 The Accounting Cycle (3)

This course develops an understanding of how accounting activities relate to management functions and how accounting information is used internally by managers and externally by various parties in their decision processes. Students develop an understanding of financial and managerial accounting for use in real-world situations. Fall and spring semesters.

### 201, 202 Principles of Accounting (3,3)

Basic financial and managerial accounting principles as applied to manufacturing, service and retail enterprises. Includes the study of generally accepted accounting. Every semester. *Prerequisite:* 201 with a grade of C or better is prerequisite to 202.

### 300 Intermediate Accounting I (3)

The theoretical foundations and structure of accounting as they relate to the presentation of financial statements. Emphasis will be on the framework underlying financial accounting and analysis of current assets. Every semester. *Prerequisite: Accounting 202, junior standing.*

### 301 Intermediate Accounting II (3)

Theoretical foundations and structure of accounting as they relate to the presentation of financial statements. Emphasis will be placed on analysis of fixed assets, liabilities and equity. Every semester. *Prerequisites: Accounting 300 with a grade of C or better.*

### 302 Intermediate Accounting III (3)

The theoretical foundations and structure of accounting as they relate to the presentation of financial statements. Emphasis will be placed on analysis of the statement of cash flows, deferred taxes, leases, pensions, earnings per share, and other financial reporting considerations. Every semester. *Prerequisites: Accounting 301.*

### 305 Managerial Cost Accounting (3)

Introduction to the managerial-cost accounting models available for planning, controlling, and evaluating operations. Including: the development and utilization of unit standard costs, job order and process costing, variance analysis, direct and absorption costing models, and their data requirements. Every semester. *Prerequisite: Accounting 202, junior standing.*

### 306 Budgeting (3)

Cost accounting by standard costs. Cost analysis and cost distribution reports emphasized. Methods and procedures in the preparation and execution of master and special budgets for industrial and commercial enterprises. Summer semester. *Prerequisite: Accounting 305, or Accounting 202 and approval of instructor.*

### 307 Federal Tax Accounting (3)

Fundamentals of federal income tax with major emphasis upon tax law and regulations applicable to individuals. Every semester. *Prerequisite: Accounting 300 and 335, or approval of instructor.*

### 312 Issues in Financial Accounting and Reporting (3)

An application of accounting principles and an examination of how those principles influence the financial reporting process. Credit not allowed toward Accounting major. Spring and summer semesters. *Prerequisite: Finance 302.*

### 335 Legal Environment of Business (3)

American legal institutions and sources of law; ethical considerations of business; an introduction to social and political influences as reflected in government regulation. Every semester.

### 336 Business Law (3)

Fundamental principles concerning contracts, personal property, and bailments, sales, commercial paper, secured transactions, agency and employment, partnerships and corporations, real property. Every semester. *Prerequisite: Accounting 335.*

### 401 Advanced Accounting (3)

Theory of business combinations and preparation of consolidated financial statements; accounting for foreign currency translations, and partnerships. Spring semester. *Prerequisite: Accounting 301; Management 212.*

### 405 Auditing (3)

Kinds of audits, systems of accounts, and methods of conducting audits.

Preparation of working papers and reports. Fall and spring semesters. *Prerequisites: Accounting 301, Management 212, Prerequisite or Corequisite: Accounting 408.*

### 406 Advanced Managerial Accounting (3)

An investigation of alternative managerial accounting models available for planning, controlling, and evaluating operating and capital expenditures. Including investigations of the assumptions, behavioral implications, quantitative methodologies, and controversial issues in current and proposed managerial accounting models. On demand. *Prerequisites: Accounting 305, Finance 302.*

### 407 Governmental Accounting (3)

Accounting systems of institutions and various governmental units. Fund transactions, revenues and expenditures, appropriations, and form and content reports. Fall and spring semesters. *Prerequisite: Accounting 300.*

### 408 Accounting Information Systems (3)

This course provides an introduction to accounting information systems concepts. Emphasis is on the definition of accounting information, current accounting technology, the systems development life cycle, systems controls, accounting transaction cycles and related documents and files. Fall and spring semesters. *Prerequisites: Accounting 300 and 305, or Accounting 312.*

### 411 Taxation of Corporations and Partnerships (3)

Fundamentals of federal income tax laws covering the formation, liquidation and reorganization of corporations and partnerships. Emphasis is placed on the federal income tax laws as they relate to both the entity and the owner. Fall and spring semesters. *Prerequisite: Accounting 301 and 307.*

### 412 Taxation of Estates, Gifts and Trusts (3)

A study of the federal taxation of wealth transfers, including federal estate and gift taxes, and the income taxation of estates and trusts. Fall semester. *Prerequisites: Accounting 307.*

### 452 The Business of Health Care (3)

This course provides a basic understanding of the U.S. health care industry. Emphasis is on health care delivery issues, health care organization issues, and current topics of concern related to health care management and business issues. Summer semester. *Prerequisite: Finance 302, Marketing 313, Management 311 and 315.*

**495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)** Every semester. See "Departmental Honors," page 39.

### 497r Research (1-3)

Every semester.

### 498r Individual Studies (1-3)

Every semester.

### 499r Group Studies (1-3)

Every semester.

## FINANCE COURSES (BFIN)

### 300 Small Business Finance (3)

The role and nature of finance in the small business. The essential tenants and

concepts of small business finance are distinguished from corporate finance. Fall and spring semesters. *Prerequisite: Accounting 200.*

### 301 Personal Finance (3)

Designed to help the individual and family make intelligent, informed decisions on personal financial management. On demand.

### 302 Essentials of Managerial Finance (3)

Management of funds in business, including procurement, utilization, and disposition of money. Financial aids such as budgeting and break even analysis, financial statement analysis, and capital management. Every semester. *Prerequisites: Accounting 202, Economics 101 and 102, Management 211, Mathematics 131, junior standing.*

### 318 Financial Institutions (3)

Capital markets and institutions; sources and uses of capital funds; impact of changes in flow of funds on the economy. Fall semester. *Prerequisite: Finance 302, Accounting 202, Economics 101 and 102, Mathematics 136, junior standing.*

### 320 Intermediate Financial Management (3)

A course designed to provide students with a detailed development of key finance concepts introduced in earlier course work. Topics covered include risk analysis, security valuation, capital budgeting, cost of capital, capital structure, the dividend decision, leasing and mergers. Every semester. *Prerequisites: Accounting 202, Economics 101 and 102, Finance 302, Mathematics 136, Management 212, junior standing.*

### 321 Investments (3)

Theory of investment; classification of media; security analysis; investment market mechanisms; securities legislation; institutional aids to the investor, investment timing; formulation of investment programs. Fall and summer semesters. *Prerequisites: Finance 302, Economics 101 and 102, Mathematics 136, junior standing.*

### 337 Principles of Insurance (3)

Types of insurance, insurance coverage, policy protection, and company organization and regulation. Fall and spring semesters. *Prerequisites: Economics 101 and 102.*

### 371 Real Estate Fundamentals (3)

A survey course on real estate principles. Topics include property rights, ownership, economic and social issues, and brokerage. Fall semester. *Prerequisite: Finance 302 or approval of instructor.*

### 403 Financial Statement Analysis (3)

Techniques of financial statement analysis with special attention paid to the balance sheet and the income statement. Emphasis on current position, profitability, and financial structure of the firm. On demand. *Prerequisites: Finance 302, senior standing, and approval of instructor.*

### 412 International Finance (3)

Designed to offer students an understanding of the global financial environment. Topics covered include foreign exchange markets, the evolving international financial architecture, currency crises, foreign exchange risk management, political risk and multinational capital budgeting. Spring semester. *Prerequisite: Finance 302.*

### 418 Commercial Banking (3)

An in-depth study of commercial banks and their role in the economy. The course provides a comprehensive examination of the issues facing today's commercial bank managers and regulators. Topics covered include: banking history and regulation, credit analysis, asset and liability management, risk management, loan

policy, and money management services. Trends such as consolidation, internationalization, and product diversification, are also addressed. On demand. *Prerequisites: Finance 302, Mathematics 136.*

### 421 Security Analysis and Portfolio Management (3)

A course designed to introduce the undergraduate to advanced investment analysis and theory. Included in the course will be computer applications and analysis of investment vehicles and strategies. Spring semester. *Prerequisites: Finance 321 or 546; Computer Science 110.*

### 423 Financial Management (3)

A case course which affords the undergraduate an opportunity to apply financial principles to actual situations. The course is a continuation of the topics in 320 using the case discussion approach. Summer semester. *Prerequisite: Finance 320.*

### 431 Speculative Markets (3)

Theory and practical applications of futures, options, and other derivative securities. Concepts, model derivations, thought processes, tools used and numerical examples are included. On demand. *Prerequisites: Any of the following: Finance 318, 321, 518, 546, or approval of instructor.*

### 471 Real Estate Appraisal (3)

Theory and practical applications of real estate appraisal. Qualitative and quantitative analyses are incorporated into the various approaches of real estate valuation. Topics include cash flow estimation, lease valuation, site valuation and market analyses. On demand. *Prerequisite: Finance 302 and 371 or approval of instructor.*

### 488 Seminar in Portfolio Management

A seminar in security analysis and portfolio management. Students will experience the actual investment decision process by analyzing and investing designated funds into a variety of securities. Fall and spring semesters. *Prerequisite: Finance 321 or 546 or approval of instructor.*

### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

Every semester. See "Departmental Honors," page 39.

### 497r Research (1-3)

Every semester.

### 498r Individual Studies (1-3)

Every semester.

### 499r Group Studies (1-3)

Every semester.

## Management

*Professor Lawrence Etkin, Head*

The Management curriculum is designed to prepare students for careers in both the public and private sectors as well as graduate studies. Students may choose to concentrate in General Management, Human Resource Management or Industrial Management.

## 2005-Business Administration: General Management (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 131\* (3 hours)

**Statistics:** Management 211\* (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: One approved Western Humanities course and one approved Non-Western Cultures and Civilizations course OR Option B: two approved World Civilization courses (6 hours)

**Behavioral and Social Sciences:** One course from Economics 101 or 102 and one from Anthropology 152, Psychology 101 or Sociology 151\* (6 hours)

### Major and Related Courses

Economics 101, 102 and one course from Anthropology 152, Psychology 101, or Sociology 151; †

Management 100; Mathematics 131 and 136 (if exempted from Mathematics 131†, student must take Mathematics 136); Theatre and Speech 109; one course from Management 310, English 300 or English 410;

31 hours from the College of Business including Accounting 201, 202, 335; Finance 302; Management 211†, 212, 311, 315, 440, 441; Marketing 313

### General Management Concentration

15 hours including Management 330, 331, 332, 360, 438

9 hours chosen from Management 340, 356, 366, 410, 411, 434, 435, 451, 452; Business Administration 459; Entrepreneurship 340

2.0 average in all Management courses.

Electives to complete 120 hours.

A minimum of 54 hours of the 120 total must be taken at the 300-400 level.

Maximum of 69 hours total accepted in College of Business courses; i.e., at least 51 hours other than College of Business courses must be completed.

At least 50 percent of the business credit hours required for the B.S. degree in Business Administration must be earned at UTC.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

†Also satisfies general education requirement.

## 2010-Business Administration: Human Resource Management (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 131\* (3 hours)

**Statistics:** Management 211\* (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: One approved Western Humanities course and one approved Non-Western Cultures and Civilizations course OR Option B: two approved World Civilization courses (6 hours)

**Behavioral and Social Sciences:** One course from Economics 101 or 102 and one from Anthropology 152, Psychology 101 or Sociology 151\* (6 hours)

### Major and Related Courses

Economics 101, 102 and one course from Anthropology 152, Psychology 101, or Sociology 151; †

Management 100; Mathematics 131† and 136 (if exempted from Mathematics 131, student must take Mathematics 136); Theatre and Speech 109, one course from Management 310, English 300 or English 410;

31 hours from the College of Business including Accounting 201, 202, 335; Finance 302; Management 211†, 212, 311, 315, 360, 440, 441; Marketing 313

### Human Resource Management Concentration

15 hours including Management 332, 411, 434, 435, 444.

12 hours chosen from Management 330, 331, 410, 436, 437; Human Services 405; Psychology 345, 406.

2.0 average in all Management courses.

A minimum of 54 hours of the 120 total must be taken at the 300-400 level.

Electives to complete 120 hours.

Maximum of 69 hours total accepted in College of Business courses; i.e., at least 51 hours other than College of Business courses must be completed.

At least 50 percent of the business credit hours required for B.S. degree in Business Administration must be earned at UTC.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

†Also satisfies general education requirement.

## 2008-Business Administration: Industrial Management (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 131\* (3 hours)

**Statistics:** Management 211\* (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: One approved Western Humanities course and one approved Non-Western Cultures and Civilizations course OR Option B: two approved World Civilization courses (6 hours)

**Behavioral and Social Sciences:** One course from Economics 101 or 102 and one from Anthropology 152, Psychology 101 or Sociology 151\* (6 hours)

### Major and Related Courses

Economics 101, 102 and one course from Anthropology 152, Psychology 101, or Sociology 151†;

Management 100; Mathematics 131† and 136 (if exempted from Mathematics 131, student must take Mathematics 136); Theatre and Speech 109; one course from Management 310, English 300 or English 410;

31 hours from the College of Business including Accounting 201, 202, 335; Finance 302; Management 211†, 212, 311, 315, 440, 441; Marketing 313

### Industrial Management Concentration

21 hours including Accounting 305; Management 356, 360, 366, 451, 452; Industrial Engineering 457

9 hours chosen from Industrial Engineering 354, 458; Management 330, 331, 332, 410, 411, 435, 438, 439; Marketing 415; Economics 429

2.0 average in all Management courses.

A minimum of 54 hours of the 120 total must be taken at the 300-400 level.

Electives to complete 120 hours.

Maximum of 69 hours total accepted in College of Business courses; i.e., at least 51 hours other than College of Business courses must be completed.

At least 50 percent of the business credit hours required for the B.S. degree in Business Administration must be earned at UTC.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

†Also satisfies general education requirement.

## MANAGEMENT COURSES (BMGT)

### 100 Computers In Business (3)

Introduction to the use of computers in business. Emphasizes spreadsheet and database applications, using microcomputer hardware and software. Also includes word processing and presentation software, Internet use, the basic structure and organization of a computer, ethical issues in computing, and the impact of computers on society. Every semester. *Prerequisites:* UTC Math Placement Level 20 or Mathematics 106 with a grade of C or better. This course is designed for Business Administration majors.

### 103 Introduction to Business and Entrepreneurship (3)

The general characteristics of a business, its role in society, and the objectives of business enterprise. All functional areas of a business are covered, in the context of both established businesses and entrepreneurial ventures. Fall and spring semesters. Junior and senior majors in Business Administration will not receive credit for the course.

### 199r Special Projects (1-4)

Individual or group projects. Every semester. Maximum credit 4 hours.

### 211 Statistical Methods for Business I (3)

Basic concepts of descriptive and inferential statistics including frequency, probability, sampling distributions, estimation theory, and introduction to hypothesis testing. Emphasis on business applications. Every semester. *Prerequisite:* Management 100, UTC Math Placement Level 30 or Mathematics 131 or 145 or 150 with grade of C or better.

### 212 Statistical Methods for Business II (3)

Advanced concepts of statistical inference including hypothesis testing for two populations, contingency, tables, goodness of fit, analysis of variance, and simple and multiple regression analysis. Emphasis is on computer solutions of business statistical applications. Every semester. *Prerequisites:* Management 100 or equivalent; 211 or Mathematics 210 with a grade of C or better; and Mathematics 131 or 145

or 151 with a grade of C or better.

### 310 Business Communication (3)

Principles of writing, grammar, and rhetoric are applied to business communication. Mechanics that include organization, methods of development, paragraph length, sentence style, and vocabulary of business letters, memoranda, and reports. Every semester. *Prerequisites:* English 122 with a grade of C or better.

### 311 Operations Management (3)

An introduction to the management of operations systems in both service and manufacturing environments. The focus of the course is on strategic issues in operations as well as on design and control of operating systems. Topics include both concepts and decision support models from such specialized areas as inventory management, quality management, production and capacity planning, forecasting, project management, and production control. Every semester. *Prerequisites:* Management 100, Management 211 or Mathematics 210 or 307, Management 212, Mathematics 131, Economics 102, junior standing, or approval of instructor.

### 315 Management Concepts, Theory, and Practice (3)

Principles of management focusing on the processes of strategic and intermediate term planning, organizing, human resource management, leadership, motivation, groups, communication and controlling. Topics also include the history of management as well as current trends in the discipline. Every semester. *Prerequisite:* junior standing.

### 330 Concepts in Organizational Behavior (3)

An advanced survey of theory and research concerning the behavior of people in organizations. Topics include personality, communication, perception, group dynamics, stress, change and organizational culture. Class is taught extensively using experimental exercises and cases. Every semester. *Prerequisite:* Management 315.

### 331 Organizational Motivation and Leadership (3)

A comprehensive examination of leading theories of organizational motivation and leadership. An understanding of the processes affecting the behavior of employees is stressed. Emphasis will be placed on directed exercises demonstrating the implementation of concepts learned from the class material. Every semester. *Prerequisite:* Management 315.

### 332 Human Resource Management (3)

Introduction to human resource management principles and practices, including equal employment opportunity, job analysis, staffing, performance appraisal, compensation programs, and employee relations. Every semester. *Pre or Co-requisite:* Management 315.

### 340 Innovation and Creativity in Business (3)

The development of creative thinking skills and creative approaches to decision making as they relate to innovation and the recognition of opportunity. Issues relevant to both entrepreneurial ventures and established businesses will be covered. Spring semester. *Prerequisite:* junior standing. May also be registered as Entrepreneurship 340. No credit in both Management and Entrepreneurship 340.

### 350r Management Internship (3)

A supervised work experience program designed to strengthen the student's technical competencies and fundamental knowledge in management. On demand. *Prerequisite:* approval of department head.

### 356 Management Science (3)

Concepts and applications of quantitative (mathematical) techniques, and computer analysis for business decision making under deterministic and stochastic conditions. Topics include mathematical model formulation, linear programming, integer programming, goal programming, transportation problems, assignment problems, network models, project scheduling, decision analysis, queuing, dynamic programming, and Markov processes. Fall semester. *Prerequisites:* Management 212, Mathematics 136, junior standing.

### 360 Management Information Systems (3)

Systems and information concepts; systems in organizations; systems tools; decision making, database concepts; information systems analysis and design; integrative business project that includes problem identification, definition, requirements analyses, system design, and implementation. Every semester. *Prerequisites:* Management 100 and 315.

**366 Business Forecasting (3)**

A study of forecasting processes including data collection, analysis, model selection, and forecasting accuracy. Moving averages, smoothing models, time-series decomposition, simple regression, autocorrelation models, and Box-Jenkins (ARIMA) methodologies will be studied. Computer applications such as spreadsheets and statistical packages will be extensively used. Spring semester. *Prerequisites: Management 100 or equivalent, Management 212, or approval of the instructor. Formerly Management 456.*

**410 Industrial Relations (3)**

Union-management relations. Topics include labor law, collective bargaining, grievance administration, arbitration, and dispute resolution techniques. Summer semester. *Prerequisites: Management 332.*

**411 Government Regulation of HRM (3)**

An examination of laws and government guidelines regulating the employer-employee relationship with regard to hiring, discharge, and conditions of employment. Topics include sexual harassment, discrimination, and employee privacy. Fall and spring semesters. *Prerequisite: Management 332.*

**434 HRM Staffing (3)**

This course will examine the procedures used by employers to hire and train employees. Students will learn how organizations seek to improve their effectiveness by attracting, selecting, promoting, and developing their employees to ensure that each job is staffed by a fully capable individual. Fall semester. *Prerequisite: Management 332.*

**435 Compensation Management (3)**

A survey of pay and benefits practices used by organizations to control labor costs and motivate employees to achieve strategic organizational goals. Traditional compensation techniques based on job evaluations, as well as more contemporary techniques such as group-based reward practices, will be explored. Spring semester. *Prerequisites: Management 332.*

**436 Managing Diversity in Organizations (3)**

This course provides an overview of diversity issues in the workplace. In response to changing workforce demographics, the global marketplace, and increased competition, organizational awareness of the need to effectively manage an increasingly more diverse workforce has intensified. This course helps students understand these issues and develop skills to function better in a multicultural business environment. Spring semester. *Prerequisite: Management 315.*

**437 Training and Development (3)**

This course is designed to provide an introduction to the Training and Development field. From a foundation of various learning theories, students will build their understanding of processes of design, development and delivery of company training programs, and examine the role of training and development in the overall performance management system. Topics include training design, training technologies, employee development, adult education theory, managing the training function, instructional methods and training assessment. Spring semester. *Prerequisite: Management 315.*

**438 International Management (3)**

A study of issues, concepts, and skills necessary for managerial success in international companies. Particular attention is given to exploring how culture influences management practices in overseas operations. Every semester. *Prerequisite: Management 315.*

**440 Strategic Management (3)**

This capstone course integrates all functional business courses. Using cases, students will analyze management decisions and formulate future strategies for business. A mix of small and large businesses as well as private and publicly-traded businesses will be emphasized using cases. Strategic management theory will emphasize planning from mission setting and goal development through imple-

mentation, evaluation and control. Small group activities, experimental activities, and student team presentations on future strategies for selected companies and industries. Every semester. *Prerequisites: Management 311, 315; Finance 302; Marketing 313; senior standing. May not be used for graduate-level credit.*

**441 Senior Seminar (1)**

The practices, policies, and administration of business examined by top level executives of a variety of businesses. The course considers a wide variety of topics from the top management viewpoint with a view towards broadening the interest and horizon of the student. Fall and spring semesters. Course graded on satisfactory/no credit basis. *Prerequisite: senior standing.*

**444 Strategic Issues in Human Resource Management (3)**

The capstone course in human resources. Involves extensive readings and discussion of current Human Resource issues and their implications for the strategic and effective operation of the organization. Course is to be taken during student's final semester before graduation. *Prerequisite: Senior standing and 9 hours of required Human Resource Management courses.*

**451 Production Planning and Control (3)**

Explores concepts and techniques utilized in solving problems associated with production planning and control. Master production scheduling, material requirements planning, production activity and control, capacity requirements planning, constraint theory, and current topics will be addressed to broaden the student's working knowledge of production planning and control management. Fall semester. *Prerequisite: Management 311 or approval of instructor.*

**452 Supply Chain Management (3)**

A study of the problems and practices of operations and materials management. Topics will include: materials acquisition, classical inventory systems, demand management, aggregate planning, material logistics systems, and current topics in materials management including just-in-time, zero inventories, and group technology. Spring semester. *Prerequisite: Management 311 or approval of instructor.*

**495r Department Honors (1-3 hours per terms, 4 hours for the two terms)**

Every semester. See "Departmental Honors," page 39.

**497 Research (1-3)**

Every semester.

**498r Individual Studies (1-3)**

Every semester.

**499r Group Studies (1-3)**

Every semester.

# Marketing and Entrepreneurship

Professor Lawrence Etkin, Head



The Marketing curriculum is designed to prepare students for careers in both the public and private sectors as well as for graduate studies.

## 2009 - Business Administration: Marketing (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 131\* (3 hours)

**Statistics:** Management 211\* (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: One approved Western Humanities course and one approved Non-Western Cultures and Civilizations course OR Option B: two approved World Civilization courses (6 hours)

**Behavioral and Social Sciences:** One course from Economics 101 or 102 and one course from Psychology 101 or Sociology 151\* (6 hours)

### Major and Related Courses

Economics 101, 102 and one course from Psychology 101 or Sociology 151; † Management 100; Mathematics 131† and 136 (if exempted from Mathematics 131, student must take Mathematics 136); Theatre and Speech 109; one course from Management 310, English 300 or English 410;

31 hours from the College of Business including Accounting 201, 202, 335; Finance 302; Management 211†, 212, 311, 315, 440, 441; Marketing 313

### Marketing Concentration

15 hours including Marketing 365, either 361 or 362, 450, 461, and Management 360

12 hours chosen from Marketing 318, 361 or 362, 364, 415, 417, 430, 431, 442; Economics 425, 429; Entrepreneurship 340, 430; Management 340, 356

Either 361 or 362 is required. The course not chosen to meet this requirement may be taken as an elective.

2.0 average in all Marketing courses.

Electives to complete 120 hours.

A minimum of 54 hours of the 120 total must be taken at the 300-400 level.

Maximum of 69 hours total accepted in College of Business courses; i.e., at least 51 hours other than College of Business courses must be completed.

At least 50 percent of the business credit hours required for the B.S. degree in Business Administration must be earned at UTC.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

†Also satisfies general education requirement.

## 2012-Business Administration: Entrepreneurship (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 131\* (3 hours)

**Statistics:** Management 211\* (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option A: One approved Western Humanities course and one approved Non-western Cultures and Civilizations course OR Option B: two approved World Civilization courses (6 hours)

**Behavioral and Social Sciences:** One course from Economics 101 or 102 and one course from Psychology 101 or Sociology 151\* (6 hours)

### Major and Related Courses

Economics 101, 102 and one course from Psychology 101 or Sociology 151; † Management 100; Mathematics 131† and 136 (if exempted from Mathematics 131, student must take Mathematics 136); Theatre and Speech 109; one course from Management 310, English 300 or English 410;

31 hours from the College of Business including Accounting 201, 202, 335; Finance 302; Management 211†, 212, 311, 315, 440, 441; Marketing 313

### Entrepreneurship Concentration

15 hours including Entrepreneurship 340, 430, 435, 440 and Management 360  
12 hours chosen from the following with no more than 6 hours in Marketing: Accounting 312, 336; Finance 371; Management 332, 438; Marketing 318, 361, 362, 431, 442; Business Administration 459.

2.0 average in all business courses.

Electives to complete 120 hours.

A minimum of 54 hours of the 120 total hours must be taken at the 300-400 level. Maximum of 69 hours total accepted in College of Business courses; i.e., at least 51 hours other than College of Business courses must be completed.

At least 50 percent of the business credit hours required for the B.S. degree in Business Administration must be earned at UTC.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

†Also satisfies general education requirement.

## MARKETING COURSES (BMKT)

### 313 Basic Marketing (3)

This course examines the principles and methods involved in the movement of good and services from producers to consumers or end-users. In particular, the course focuses on strategies the firm may use to take advantage of market opportunities. Every semester. *Prerequisites: Economics 102; junior standing.*

### 318 International Marketing (3)

Examination of the problems and opportunities in marketing across national borders. Major topics covered in this course are: description of major world markets, including cultural and political implications of target market selection; market entry alternatives; marketing strategy and implementation issues in a global environment. Spring semester alternate years. *Prerequisite: Marketing 313.*

### 361 Selling and Sales Management (3)

Basic principles of selling and the practical application and management in sales situations. Persuasion and communication theories related to the selling of industrial and consumer goods and services are covered. Selling techniques and communication skills are analyzed and practiced during class. The course also covers sales management topics such as sales department organization, the role of the sales manager, sales planning and forecasting, managing and motivating the sales force and sales policies. Fall and spring semesters. *Prerequisite: Marketing 313.*

### 362 Integrated Marketing Communications (3)

This course considers the many ways marketers communicate with target customers to inform and influence decision-making. Also considers the nature and role of integrated marketing communications in an organization's overall marketing plan. Foundation concepts include target marketing, positioning, and consumer behavior as they relate to persuasive marketing communications. Specialized topics include objective and budget setting, planning the promotional message, media planning, sponsorship marketing, sales promotion techniques, public relations, and other elements of promotion strategy. Fall and spring semesters. *Prerequisite: Marketing 313.*

**364 Retailing (3)**

Focuses on strategy development and execution in marketing consumer goods and services through retail organizations. In addition to such topics as target market selection, location decisions, and merchandising issues, vendor relations, trade management, and emerging retail trends will be covered. Spring semester. *Prerequisites: Marketing 313.*

**365 Consumer Behavior (3)**

Consumer behavior is an analysis of internal and external influences on consumer buying behavior. Internal influences include perception, motivation, personality, and attitudes, while external influences include culture, families, social class, and situations. The consumer decision making process is also evaluated with reference to these influences. Spring semester. *Prerequisites: Marketing 313.*

**415 Business to Business Marketing (3)**

Principles and strategies used in the marketing of products and services to businesses and industrial customers. Covers the differences between organizational buyers and ultimate consumers and the resulting effects on marketing strategy. The course also covers the "buying" side of business to business marketing by examining the purchasing function within organizations. This includes the planning, implementation, and control of purchasing operations, inventory management, and buying for institutions and government agencies. Fall semester alternate years. *Prerequisite: Marketing 313.*

**417 Strategic Distribution Management (3)**

Principles and strategies used to design and manage the distribution channels used in the movement of goods and services from producers to users. Includes channel management issues such as determining channel type, coverage and service levels, costs, and conflict management within the channel. The logistics of physical distribution are also addressed. This includes the integration of transportation, warehousing, order processing, inventory control, and location decisions in the effective movement of products and services. Spring semester alternate years. *Prerequisite: Marketing 313.*

**430 New Venture Creation (3)**

An in-depth study of the lifestyle of the entrepreneur. Actual business opportunities identified and evaluated with group feasibility projects. The relationship of the entrepreneur to the formation and growth of the enterprise. Fall semester. *Prerequisites: Marketing 313. May be registered as Entrepreneurship 430. No credit in both Marketing and Entrepreneurship 430.*

**431 E-Marketing (3)**

This course introduces students to the concepts and tools on Internet marketing. In addition to examining different e-business models, new and recent developments in e-business are a focus of the class. The strategic implications of the Internet on research, promotion, transactions, and distribution will be examined in both for profit and not-for-profit organizations. Fall semester. *Prerequisites: Marketing 313 and Management 100 or equivalent.*

**442 Services Marketing (3)**

An examination of the unique aspects of marketing of services. Appropriate for students seeking careers in health and human services, banking and finance, education and training, small business, sports management, information technology, or other service industries. The course investigates the characteristics of services and service customers, strategic differences in the marketing of goods versus services, service standards, and service quality measurement and management. In addition, the importance of service in providing customer satisfaction. Fall semester. *Prerequisites: Marketing 313 and three additional hours in Marketing or approval of instructor.*

**450 Marketing Research (3)**

Course emphasizes marketing research as a decision making tool in opportunity identification and problem analysis. In addition to secondary data analysis, research methodologies and procedures for additional data capture will be covered. An application-oriented approach will address all research phases from problem identification to presentation. Fall and spring semesters. *Prerequisites: Marketing 313, Management 212, and at least 9 hours of marketing courses or approval of instructor.*

**461 Marketing Problems (3)**

The major marketing problems of representative firms, including manufacturers,

wholesalers, and retailers. A case course dealing with actual business problems in all phases of marketing activity. Every semester. *Prerequisite: Marketing 313 and 6 additional hours in Marketing, or approval of instructor.*

**495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)**

Every semester. See "Departmental Honors," page 39.

**497 Research (1-3)**

Every semester.

**498r Individual Studies (1-3)**

Every semester.

**499r Group Studies (1-3)**

Every semester.

**ENTREPRENEURSHIP COURSES (BETR)****340 Innovation and Creativity in Business (3)**

The development of creative thinking skills and creative approaches to decision making as they relate to innovation and the recognition of opportunity. Issues relevant to both entrepreneurial ventures and established businesses will be covered. Spring semester. *Prerequisite: junior standing. May also be registered as Management 340. No credit for both Entrepreneurship and Management 340.*

**430 New Venture Creation (3)**

An in-depth study of the lifestyle of the entrepreneur. Actual business opportunities identified and evaluated with group feasibility projects. The relationship of the entrepreneur to the formation and growth of the enterprise. Fall semester. *Prerequisites: 313. May also be registered as Marketing 430. No credit for both Entrepreneurship and Marketing 430.*

**435 Managing Venture Growth (3)**

Focus is on managing the growth of a young business from the time it has completed the initial start-up phase through harvest. Topics covered include growth strategies, cash flow management, financing for growth, moving from entrepreneurial to professional management, legal issues, marketing on a tight budget, family business issues, management succession planning, and exit strategies. *Prerequisite: Entrepreneurship or Marketing 430.*

**440 Essentials of Entrepreneurial Finance (3)**

This course provides an overall understanding of the segments of the capital markets specializing in start-up and growth financing, and focuses on the various financial concepts, issues, methods and industry practices relevant to entrepreneurial decision-makers. The course addresses a variety of topics including financial analysis, financial planning, business valuation, sources of funds, bankruptcy, expansion, IPOs, and cashing out. *Prerequisite: Finance 302.*

# General Business Administration

*Professor Richard Casavant, Dean*

General Business Administration consists of courses and programs which are offered to all students regardless of major or department. These courses are intended to enhance students' opportunities to understand business and its environment and

provide opportunities to participate in a business practicum. General Business Administration is not a degree program. Courses in this category are designated as BUSA for "Business Administration." A concentration in Entrepreneurship is available to Business Administration majors and a minor in Entrepreneurship is available to non-business majors.

## GENERAL BUSINESS ADMINISTRATION COURSES

### 001r Cooperative Work Experience (0)

Cooperative work terms as a part of the cooperative education program in business. Student participation in off-campus work terms in business as a parallel work/learn semester or alternating semester (as either first semester, second semester, or a three-month summer term).

### 459 Small Business Practicum (3)

A project-based course where students, under the director of the instructor, serve as business consultants. Students work directly with entrepreneurial companies to help solve practical business problems such as situation analysis, market evaluation, strategy development and implementation/control capabilities. The course uses a combination of independent study, in-class lecture and discussion, written reports and working presentations to assist students in sharpening analytical and communication skills as they apply to understanding small business management. On demand. *Prerequisites: Finance 302; Management 311, 315; Marketing 313; Marketing or Entrepreneurship 430. Corequisite: Management or Entrepreneurship 340, or approval of instructor.*

## BUSINESS ADMINISTRATION MINORS

### 4644 - Business Administration Minor

(Available only to non-business majors.)

18 hours including Accounting 200 or 201; Economics 102; Management 315; Finance 300 or 302\*; Marketing 313; one additional course from the College of Business at the 200-level or higher, excluding BMGT 211.

Minimum of 8 hours at the 300-400 level.

Minimum of 2.0 average in minor.

\*Students may substitute any General Education approved statistics course in lieu of BMGT 211 as a prerequisite to Finance 302. Students wishing to take any course must meet all stated prerequisites.

Students not seeking a major in business administration may only complete a maximum of 30 hours in the College of Business.

### 4555 - Entrepreneurship Minor

(Available only to non-business majors)

18 hours including Entrepreneurship 340 and 430, Accounting 200, Finance 300, Management 103, Marketing 313

Minimum of 8 hours at the 300-400 level.

Minimum of 2.0 average in minor.

A student who is not seeking a major in business administration may only complete a maximum of 30 hours in the College of Business.

### 4643- Promotion Minor

(Available only to non-business majors)

18 hours including Marketing 313, 361, 362, 365, 442, 450.

A minimum of 8 hours at the 300-400 level required.

Minimum of 2.0 average in minor.

A student who is not seeking a major in business administration may only complete a maximum of 30 hours in the College of Business.

# College of Engineering and Computer Science

Professor Ronald Bailey, Dean

**College Mission:** The College of Engineering and Computer Science (CECS) at The University of Tennessee at Chattanooga strives to serve the people, businesses, and industries of our region and support their technical needs. The College exists as the region's principal resource for educational, applied research, and service programs.

**College Objectives:** Grounded in the application of scientific and mathematical principles and based on a commitment to interdisciplinary study, our programs and activities:

- Prepare undergraduate students for rewarding professional careers or graduate study and for a lifetime of creative thinking and adaptive learning as productive citizens;
- Prepare post-baccalaureate and graduate students for continuing professional development and career advancement;
- Promote excellence in teaching and learning through scholarship in our disciplines;
- Perform and disseminate applied research that solves problems of transforming information, matter, and energy into structures, machines, products, technologies, systems, organizations, and processes; and
- Serve the University and our professional communities with leadership and distinction.

The CECS supports programs in engineering, computer science, engineering management, and industrial technology management that lead to:

- the Bachelor of Science in Engineering degree with specializations and electrical/mechanical programs
- the Bachelor of Science degree with a major in computer science
- the Bachelor of Science degree with a major in industrial technology management

- the Master of Science degree in engineering
- the Master of Science degree with a major in computer science
- the Master of Science degree with a major in engineering management.

Note: Graduate programs are discussed in a separate publication

The B.S. Engineering program is accredited by the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology (EAC/ABET-<http://www.abet.org/EAC1.html>), the national accrediting agency for engineering programs. The B.S. Engineering program now includes engineering specializations in civil, chemical, environmental, and industrial. These specialties are accredited in the ABET classification 'Nontraditional Engineering Programs.'

In 2004, the electrical and mechanical specialties that existed in the B.S. Engineering program were accredited by ABET as traditional electrical and mechanical engineering programs using ABET program criteria for electrical and mechanical engineering.

The B.S. Computer Science program is accredited by the Computing Accreditation Commission/Accreditation Board for Engineering and Technology, the national accrediting agency for computer science programs. The specific concentrations accredited are the Informational Science concentration and the Scientific Applications concentration.

The CECS full-time faculty has extensive experience in engineering or computer science, professional practice, research, and higher education. In addition, the college draws on the talents of adjunct faculty who are employed in professional capacities in a variety of industrial and governmental settings.

# Engineering

Professor Michael Jones, Director

Chemical, Civil, Environmental, Mechanical

Professor Ed McMahon, Director

Electrical, Industrial

**Program Mission:** The engineering program at UTC provides accessible education in the theory and application of engineering in a supportive, interdisciplinary environment that prepares students for successful careers in industry, government, and academia; emphasizes project-based design; promotes life-long learning; and serves the engineering profession.

**Program Objectives:** In support of this mission, the engineering program aims to produce graduates who:

- function as successful professionals in a variety of engineering disciplines
- function effectively in multidisciplinary environments
- adapt to various environments and participate in further knowledge building opportunities
- are progressing toward Professional Registration

**Program Structure:** The strength of UTC's four-year Engineering program is its emphases on breadth, interdisciplinary interaction, design, and depth. The program builds on the general education and graduation requirements of the University. Every student completes a structured set of courses that form a foundation in written and oral communication, mathematics, chemistry, physics, and engineering fundamentals. Special emphasis is placed on learning the basic tools and techniques of engineering. Interdisciplinary interaction is introduced and emphasized through interdisciplinary design projects, team experience, and laboratory exercises. Depth is provided during the last two years of the curriculum when the students focus on an area of engineering (Chemical, Civil, Electrical, Environmental, Industrial, or Mechanical).

The engineering faculty is dedicated to fostering life-long learning among the engineering graduates. The majority of the full-time engineering faculty are registered professional engineers and possess substantial industrial experience.

**Transfer Credit:** Credits received by transfer for required engineering courses in either engineering or industrial technology management programs require a grade of C or better. Although equivalents will be awarded for D grades, students must retake the courses.

**Career Preparation for Other Fields:** Engineering study is considered an excellent preparation for advanced medical, law, and business degrees. Such plans usually require additional coursework beyond that required for the engineering degree. The student should contact one of the program directors or the dean of the CECS for advisement on course of study.

## Cooperative Program (Co-op)

Associate Professor Gary McDonald, Advisor

In addition to the basic four-year engineering and computer science programs a five-year optional cooperative program is available. In this program students alternate between a term in school and a term in industry or divide their time between school and industry concurrently. Typical students receive their baccalaureate degrees after five years and obtain approximately 20 months of industrial work experience.

**Program Objectives:** The Co-op program is designed to: (1) provide practical experience which relates academic studies to industry requirements, (2) give the student a better understanding of human relations in industry, and (3) assist the student financially.

The financial benefits to the student are usually adequate to cover most of the student's college expenses while obtaining the B.S.E. degree.

**Overall Program Structure and Requirements:** The Co-op program is open to any UTC engineering student who has at least a 2.5 cumulative grade point average, whose class work and school activities indicate that he or she is dependable and capable, and who is acceptable to a cooperative company. In general, a student is admitted to this program at the end of the freshman year. The specific requirements of the program are described below.

*Scholastic requirements:* A student must have at least a 2.5 cumulative grade point average (out of 4.0) to enroll in the program. Further, the student must maintain a 2.25 cumulative grade point average to remain in the program. If the student fails to attain at least a 2.0 average in any semester while participating in the program, the student will be required to meet for advising to determine further enrollment in the program.

*Registration:* Co-op students are required to register each term (including each term in industry) as a co-op student. A \$25 fee is assessed the student for registration during the work term.

*Cooperative Seminar:* All alternating engineering and computer science co-op students are expected to register and participate in Engineering 390r (Cooperative Seminar) during the term in school immediately following a work assignment. This seminar is designed to discuss and report on projects conducted as a part of the cooperative work assignment and to discuss topics relevant to the engineering profession.

*Reports:* Student participants are required to file a 1-3 page work report with the UTC Co-Op Office concerning the student's work at the end of each work term.

*Work Schedule:* Co-op students are expected to attend school

full-time during their first year and last year in the program. They will alternate each term (between school and work) or simultaneously attend school and work in industry during the three years between their first and last year in the program. (A term is considered to be either first semester, second semester, or a full summer term.)

*Co-op Graduate:* A co-op student is certified as a co-op graduate upon graduation if he or she has completed at least 3 alternating co-op work terms or 6 concurrent work terms and meets the degree requirement

*Additional Degree Requirements for Co-op Graduates:*

A B.S.E. cooperative engineering student graduate completes all degree requirements of the B.S.E. graduate, plus 10 additional hours in Engineering 390r, Cooperative Seminar.

## Engineering Curricula (B.S.E.)

**Engineering Fundamentals:** The engineering fundamental courses equip the student with an understanding of engineering economic analysis, statistical analysis tools, and strong decision making skills as well as basic engineering science knowledge. Laboratories develop an understanding of engineering instrumentation, experimental techniques, and fundamental principles. Written and oral communication is emphasized throughout the curriculum. The engineering design experiences begin with freshmen team design projects, are continued throughout the curriculum, and culminate in a two-semester industry-supported interdisciplinary design project. The study of the computer and its applications is integrated throughout the curricula.

**B.S.E. Programs:** UTC has four program specialties:

Engineering: Chemical                      Engineering: Environmental  
Engineering: Civil                            Engineering: Industrial  
Plus separate electrical and mechanical programs

Each program offers specific upper-level undergraduate and graduate level courses that provide learning opportunities to support the skill and knowledge needs of a graduate of that program. Each program is governed by its own mission and set of program objectives. Students in each engineering program take a selection of additional engineering fundamentals courses (at least 7 hours) and at least 30 specialty course hours to complete their program. The descriptions and requirements of each program follow the description of the engineering curricula and fundamental courses.

**Curricula Structure:** The engineering curricula is highly structured. The typical engineering course has one or more prerequisites, which must be completed before enrollment in that engineering course. Additionally, some engineering courses have corequisites, which must be taken simultaneously with the engineering courses. It is expected that laboratory courses will be taken simultaneously with the related lecture courses. The structured nature of the engineering curriculum makes it advisable that students see a faculty advisor in their selected specialty prior to each registration. Typical courses of study have been prepared

for each specialty, and may be obtained from the faculty advisor.

The faculty who support the various engineering specialties also teach the engineering fundamentals courses.

To obtain the Bachelor of Science in Engineering (BSE) degree, each student must complete the following curriculum.

**General Education** (see pages 33-36 for list of approved courses)

*Each B.S.E. engineering student must complete the following general education sequences:*

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152 (4 hours)

**Statistics:** Engineering 222 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** One approved fine arts course and one approved humanities course (6 hours)

**Cultures and Civilizations:** One approved Non-Western Cultures and Civilizations course (3 hours)

**Behavioral and Social Sciences:** Economics 101 and 102 or two approved behavioral science courses (6 hours)

### Major and Related Courses

Major and related courses vary depending upon the specialization (see below); however, all B.S. Engineering courses will require at least:

Chemistry 121/123

Mathematics 151/152, 161, 212, 245, 255

Physics 231/281

Engineering Fundamentals: Engineering 103, 104, 113, 185, 222, 246, 247, 270, 385, 485, and at least 7 additional Engineering hours as prescribed by the specialty program selected.

*Note: For qualified students, Engineering 495r, Departmental Honors (4 hours), may substitute for Engineering 485 (3 hours).*

### Specialty and Related Courses

Engineering Specialty Courses: At least 30 hours, as prescribed by the specialty program.

Technical Electives: As prescribed by the specialty program.

### Minimum Degree Requirements

128 hours (138 for co-op graduates).

Minimum 39 hours at the 300-400 level.

2.0 GPA in all engineering courses.

See page 35 for additional requirements.

## ENGINEERING COURSES (ENGR)

### 001-007 Cooperative Work Experience (0)

Consecutive cooperative engineering work terms as a part of the cooperative engineering program. Student participation in off-campus work terms in industry (work term defined as either first semester, second semester, or a three month summer term in industry). Fall, spring and summer semesters.

### 103 Basic Engineering Science (3)

Introduction to basic concepts of engineering. Physical quantities, units, dimensions, vectors; formulation of engineering problems. Calculus-based analysis of fundamental dynamics; motion along a straight line and in a plane. Newton's 1st, 2nd, and 3rd Laws of Motion plus applications. Work and energy. Impulse and momentum. Rotational motion. Fall and spring semesters. Lecture 3 hours. *Corequisites: Engineering 113. Co- or Prerequisites: Mathematics 151 and 152.*

### 104 Vector Statics (3)

Vector statics operations and applications; particle equilibrium, force system resultants, equilibrium of a rigid body. Structural analysis; trusses, solution techniques. Center of gravity and centroid. Internal forces. Friction. Moments of inertia. Elasticity. Temperature and expansion. Quantity of heat. Mechanisms of heat transfer. Fall and spring semesters. Lecture 3 hours. *Co- or Prerequisites: Mathematics 161 and 162. Prerequisite: Engineering 103 with a grade of C or better.*

### 113 Freshman Engineering Laboratory (1)

Laboratory experiments to support and enhance the topics listed from Engineering 103. Introduction to professional aspects of engineering, including ethics and observation of engineering practice. Written and oral presentations included. Fall and spring semesters. Laboratory 3 hours. *Corequisite: Engineering 103.*

### 185 Introduction to Engineering Design (3)

Introduction to the design process in engineering and computer aided design including: historical perspective, problem definition, idea generation, project planning and management, and simple decision-making. Design exercises culminating in a conceptual group design project, with application of basic engineering science. Sketching and basic computer-aided design (CAD) experience included. Written and oral reports included. Fall and spring semesters. Lecture 1 hour, laboratory 4 hours. *Prerequisite or Corequisite: Engineering 103, 113.*

### 199r Special Introductory Topics in Engineering (1-4)

Introductory treatment of a fundamental area in engineering, varying from term to term. On demand. *Prerequisite: Approval of Instructor and Dean.*

### 200 Structures in Architecture (3)

The history, esthetics, functional beauty, and behavior of architectural structures will be presented along with the economic, environmental, social, political, and scientific factors which were effected and affected by them. On demand. Lecture 3 hours. *Prerequisite: high school algebra and geometry.*

### 211 Pollution Controls (3)

The emergence and solution of pollution problems. Discussion of fundamental ideas and policies contributing to pollution problems. Pollution is examined from industrial, political, and social perspectives. Included are role-playing experiences designed to illustrate the effects of various policies on the quality of life in a simulated community. Fall semester. Lecture 3 hours. *Prerequisite: sophomore standing.*

### 222 Probability and Statistics for Engineering (3)

Introduction to probability and statistical methods with application to engineering problems. Discrete and continuous distributions. Elementary sampling, point estimation, interval estimation, and hypothesis testing. Fall, spring and summer semesters. Lecture 3 hours. *Prerequisites: Engineering 224 or 225 with grade of C or better, Mathematics 161/162.*

### 224 Introduction to Engineering Computations (3)

Engineering computations using Excel, and Visual Basic accessed through the Excel platform. Data transfer, variable types, loops, decisions, arrays, subprograms. Applications to engineering problems. Solution of linear and non-linear equations, integration, ordinary differential equations, curve fitting, numerical relaxation techniques. Fall and spring semesters. Lecture 3 hours. *Prerequisite: Engineering 104. Corequisite: Mathematics 245.*

### 225 Engineering Programming (3)

Introduction to programming with a high-level language. Flowcharting, algorithm design, input/output, data types, files, decisions, loops, arrays. Application to engineering problems including matrix equations. Fall and spring semesters. Lecture 3 hours. *Prerequisite: Engineering 104 with grade of C or better; Pre- or Corequisite: Mathematics 245.*

### 246 Mechanics of Materials (3)

Stress-strain concepts and relations. Bending, shear, torsion, and deflections. Euler columns, repeated loading and connections. Fall and spring semesters. Lecture 3 hours. *Prerequisites: Engineering 104, 185 with grades of C or better. Corequisites: Engineering 247, Mathematics 245.*

### 247 Mechanics of Materials Laboratory (1)

Laboratories that include measurement and accuracy, hardness and impact strength, modulus of elasticity, torsion, beam bending. Design project: analysis, design and test of a structure. Emphasis on individualized project. Fall and spring semesters. Laboratory 3 hours. *Prerequisite: English 122 with grade C or better. Corequisite: Engineering 246.*

### 248 Dynamics (3)

Rectilinear, curvilinear, and rotary motion. D'Alembert's principles of work and energy. Impulse and momentum, impact. Three-dimensional kinematics and dynamics. Fall and spring semesters. Lecture 3 hours. *Prerequisites: Engineering 104 with grades of C or better. Corequisite: Mathematics 245.*

### 270 Electrical Circuits I (3)

Introduction to analysis of electrical circuits. Fundamental electrical system com-

ponents. Kirchhoff's laws. Resistive circuit analysis. Circuit theorems. Operational amplifiers. Response of first order circuits. Sinusoidal steady-state circuit analysis. Circuit power and energy. Fall and summer semesters. Lecture 3 hours. *Corequisites: Mathematics 245, Physics 231.*

### 271 Electrical Circuits I Laboratory (1)

Introduction to laboratory instrumentation, measurement techniques, and electrical circuit elements. Laboratory experiments to support the introduction to DC circuit analysis, Kirchhoff's laws, network theorems, transient analysis, phasor and AC circuits analysis. Digital computer analysis of electrical circuits using such tools as PSPICE. Fall and summer semesters. Laboratory 3 hours. *Corequisite: Engineering 270.*

### 303 Thermodynamics (3)

Classical thermodynamics with emphasis on first and second laws of thermodynamics. Property relationships, chemical equilibrium, and cycle analysis. Fall semester and summer. Lecture 3 hours. *Prerequisites: Engineering 104 with grade of C or better, Mathematics 245.*

### 305 Thermo-Fluids (3)

Integrated introduction to classical thermodynamics and basic fluid mechanics. Coverage of thermodynamic properties; the first and second laws of thermodynamics; pressure and flow measurement; fluid statics and kinematics; Bernoulli's equation; laminar and turbulent flow; and flow in pipes. Fall semester. Lecture 3 hours. *Prerequisites: Engineering 104 with grade of C or better, Mathematics 255.*

### 307 Fluid Mechanics (3)

Fluid statics and kinematics; fluid dynamics including Bernoulli, continuity and momentum equations; fluid measurements; viscosity; compressible and incompressible flow; laminar and turbulent flow; flow in pipes and open channels; model studies; lift and drag. Fall and spring semester. Lecture 3 hours. *Prerequisites: Engineering 104 with grade of C or better; Mathematics 255; Corequisite: Engineering 308.*

### 308 Fluid Mechanics Laboratory (1)

Laboratories that include pressure, quantity and property measurements: impulse, momentum and energy concepts; hydrostatic and buoyancy forces; pump and turbine applications; open channel flow; wind tunnel studies. Design experience. Fall and spring semesters. *Corequisite: Engineering 307.*

### 328 Control Systems (3)

Classical feedback control systems for continuous time systems. Block diagrams and performance criteria. Root locus, frequency methods and state space approach. Fall and spring semesters. Lecture 3 hours. *Prerequisites: Engineering 224 or 225 and 270, 271 with grades of C or better. Corequisite: Engineering 329.*

### 329 Control Systems Laboratory (1)

Experimental and simulation studies of dynamic engineering systems. System identification and feedback controller design. Fall and spring semesters. *Prerequisite: Engineering 247 with grade of C or better for Engineering majors, or English 278 for non-engineering majors. Corequisite: Engineering 328.*

### 340 Engineering Materials Science (3)

Study of the science of solid materials, including metals, ceramics, plastics, and semiconductors. Nature and fundamental characteristics stressed. Atomic and macroscopic perspectives. Fall and summer semesters. Lecture 3 hours. *Prerequisites: Chemistry 121 and 123, Physics 231.*

### 352 Engineering Economy (3)

Economic decisionmaking for engineering systems. Choice of alternatives by equivalent annual cost, rate-of-return, present worth, and benefit-cost methods. Tax influences, statistical decisionmaking, replacement policy. Fall, spring and summer semesters. Lecture 3 hours. *Prerequisite: Engineering 222 with grade of C or better.*

### 370 Energy Conversion and Electronics (3)

Three Phase circuits, Electric Power, Electro mechanical Energy Conversion, Magnetic circuits, Transformers, rotating Electric machines. Semiconductors, Transistor Amplifiers, Digital Signals and Circuits. Spring semester. Lecture 3 hours. *Prerequisite: Engineering 270 with grade of C or better.*

### 385 Interdisciplinary Design Project I (3)

First semester of interdisciplinary group design project. Guided design experience

that includes design methodology, concept generation, decision making, technical project management, quality and reliability engineering, concurrent engineering, teamwork, written and oral communication. Includes team design project through the preliminary design phase. Fall and spring semester. Lecture 2 hours, project 2 hours. *Prerequisite: Engineering 247 with grade of C or better. Registrant must be within three semesters of graduation. Engineering 485 must be taken in the immediately following semester.*

### 390r Cooperative Seminar (2-4)

Seminar for developing, discussing, and reporting projects carried on as a portion of the cooperative work assignment. Written and oral report required. Fall, spring and summer semesters. Maximum of 15 cumulative hours. Course graded on satisfactory/no-credit basis.

### 485 Interdisciplinary Design Project II (3)

Second semester of interdisciplinary group design project. Completion of detailed and final design phases of engineering problem initiated in ENGR 385; including building a model, testing, evaluation, and reporting the design result. To be completed in sequence. Oral and written presentation of progress and results. Fall and spring semester. Lecture 1 hour, project 4 hours. *Prerequisite: ENGR 385 with grade of C or better; must have been taken in the immediately preceding semester.*

### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

### 497r Research (1-4)

On demand.

### 498r Individual Studies (1-4)

On demand.

### 499r Group Studies (1-4)

On demand.

## Engineering: Chemical (ENCH)

Professor Michael Jones, Director

**Specialty Mission:** The mission of the chemical specialty is threefold: (1) to provide students with the knowledge and skills required for a range of careers and graduate study; (2) to provide service to the profession in our region and beyond; and (3) to maintain a supportive environment that encourages students and faculty to achieve.

**Specialty Objectives:** In support of this mission, the chemical specialty aims to produce graduates who

- have the ability to function as chemical engineers;
- agree that the environment at UTC was conducive to their achieving;
- work in multidisciplinary teams;
- are progressing toward professional registration;
- participate in professional societies;
- pursue graduate studies.

The chemical engineering specialty faculty is committed to delivering a chemical engineering curriculum that has a strong emphasis on fundamental engineering tools, the use of modern electronic instrumentation, and the design of chemical unit operations. The curriculum culminates with a process design project.

Chemical engineering specialty faculty interests include process design and control, chemical process miniaturization, and environmental issues and impacts.

## 2310 - Engineering: Chemical (ENCH)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152 (4 hours)

**Statistics:** Engineering 222 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** One approved fine arts course and one approved humanities course (6 hours)

**Cultures and Civilizations:** One approved Non-Western Cultures and Civilizations course (3 hours)

**Behavioral and Social Sciences:** Economics 101 and 102 or two approved behavioral science courses (6 hours)

### Major and Related Courses

Chemistry 121/123

Mathematics 151/152, 161/162, 212, 245, 255

Physics 231/281

Engineering Fundamentals: 103, 104, 113, 185, 222, 246, 247, 270, 385, 485

Note: For qualified students, Engineering 495r, Departmental Honors (4 hours), may substitute for Engineering 485 (3 hours).

### Specialty and Related Courses

Chemistry 122/124, 351/353, 352/354, 371

Engineering Fundamentals: ENGR 224, 271, 303, 307, 308, 328, 329, 340, 352

Chemical Specialty: ENCH 331, 332, 430, 432, 433, 434, 435

128 hours (138 for co-op graduates).

Minimum 39 hours at the 300-400 level.

2.0 GPA in all engineering courses.

See page 35 for additional requirements.

## CHEMICAL ENGINEERING COURSES (ENCH)

### 331 Chemical Process Principles (3)

Quantitative relations of chemical reactions and physico-chemical processes. Calculations based on gases, vapors, humidity, and process material balances. Study of industrial processes involving thermophysics, thermochemistry, and heat balances. Fall semester. Lecture 3 hours. *Prerequisites: Chemistry 121/123. May be registered as ENEV 331. Credit not allowed in both ENCH 331 and ENEV 331.*

### 332 Heat Transfer Processes (3)

Principles of heat transfer process in engineering and industrial applications. Practical heat transfer equipment. Spring semester. Lecture 3 hours. *Prerequisite: ENCH 331 with grade of C or better.*

### 430 Chemical System Design (3)

Application of systems design techniques to the design of chemical processes. Discussion of case studies including separation processes, heat exchanger networks, and process utilities. Individual or group design problems. Spring semester. Lecture 3 hours. *Prerequisites: ENGR 385, ENCH 432, 433, 435 with grades of C or better. Corequisite: 434. May be registered as ENEV 430. Credit not allowed in both ENCH 430 and ENEV 430.*

### 432 Fractional Distillation Separation Processes (3)

Fundamental variables of fractional distillation. Ideal and non-ideal binary vapor-liquid phase equilibria. Application of fundamental principles for systems with simultaneous heat, and mass transfer. Design of flash, batch and continuous distillation processes. Computational and design projects. Fall semester. Lecture 3 hours. *Prerequisites: ENGR 222, 307, 308, ENCH 332 with grades of C or better.*

### 433 Chemical Process Operations (3)

Fundamental variables of chemical operations; generalized treatment of mass-transfer processes. Application to continuous and stage-wise separation processes. Computational and design projects. Fall semester. Lecture 3 hours. *Prerequisites: ENGR 222, 307, 308, ENCH 331 with grades of C or better. May be registered as*



ENEV 433. Credit not allowed in both ENCH 433 and ENEV 433.

### 434 Chemical Kinetics and Reactor Design (3)

Concepts of chemical kinetics applied to reactor design. Effects of temperature, pressure, concentration, and catalysis on rates of chemical reactions. Design of batch, backmix, and tubular reactors. Computational and design projects. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 222, 307, 308, ENCH 332 with grades of C or better, Chemistry 371.

### 435 Chemical Processes Laboratory (1)

Laboratory exercises in chemical operations, such as binary distillation, batch distillation, stripping, rectification, flooding and gas absorption. Design projects. Fall semester. Laboratory 3 hours. *Prerequisites:* ENGR 222, ENCH 332 with grades of C or better. *Corequisites:* ENCH 432, 433. May be registered as ENEV 435. Credit not allowed in both ENCH 435 and ENEV 435.

### 497r Research (1-4)

On demand.

### 498r Individual Studies (1-4)

On demand.

### 499r Group Studies (1-4)

On demand.

## Engineering: Civil (ENCE)

Professor Michael Jones, Director

**Specialty Mission:** It is the mission of the civil specialty to provide a high-quality education to students of all backgrounds to become civil engineering professionals who plan, design, build and manage infrastructure needed for the challenging environment of the 21st century. The specialty also aims to provide service to the civil engineering profession locally and regionally.

**Specialty Objectives:** In support of this mission, the civil specialty program aims to produce graduates who

- participate in professional societies;
- agree that the environment at UTC was conducive to their achieving;
- work in multidisciplinary teams;
- are progressing toward professional registration;
- have the ability to function as civil engineers;
- pursue graduate studies.

The civil specialty curriculum provides an opportunity to obtain a firm foundation in engineering science and develops the techniques of analysis and design which are basic for the successful practitioner. Emphasis is placed on developing problem-solving skills. The students' experiences culminate in a year-long civil engineering team project supported by industry. The civil specialty also offers an option in structural engineering.

The civil specialty faculty has degrees in civil engineering and is committed to delivering a civil engineering curriculum that has strong emphasis on engineering analysis and utilization of modern engineering tools.

## 2312 - Engineering: Civil (ENCE)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152 (4 hours)

**Statistics:** Engineering 222 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** One approved fine arts course and one approved humanities course (6 hours)

**Cultures and Civilizations:** One approved Non-Western Cultures and Civilizations course (3 hours)

**Behavioral and Social Sciences:** Economics 101 and 102 or two approved behavioral science courses (6 hours)

### Major and Related Courses

Chemistry 121/123

Mathematics 151/152, 161/162, 212, 245, 255

Physics 231/281

Engineering Fundamentals: 103, 104, 113, 185, 222, 246, 247, 270, 385, 485

Note: For qualified students, ENGR 495r, Departmental Honors (4 hours) may substitute for ENGR 485 (3 hours).

### Specialty and Related Courses

Geology 445

Engineering Fundamentals: ENGR 224, 248, 271, 307, 308, 340, 352

Environmental Specialty: ENEV 331, 438

Civil Specialty: ENCE 260, 361, 362, 363, 364, 461, 462, 463, 464

Technical Elective: One 3-hour 300-level or 400-level course in an Engineering specialty

128 hours (138 for co-op graduates).

Minimum 39 hours at the 300-400 level.

2.0 GPA in all engineering courses.

See page 35 for additional requirements.

## CIVIL ENGINEERING COURSES (ENCE)

### 260 Plane and Route Surveying (3)

Fundamental concepts and practices of surveying; theory of measurements and field notes; methods of obtaining horizontal and vertical distances; methods of obtaining angles and directions; use of levels, transits, theodolites, and total stations; construction surveying, curves, and volumes. Fall semester. Lecture 2 hours, laboratory 1 hour. *Prerequisite:* ENGR 104 with a grade of C or better.

### 361 Soil Mechanics (3)

Geological overview, soil composition, soil type and structure, index properties, classification, site investigation, subsurface flow, flow nets, drainage, subsurface stresses, settlement, shear strength, and slope stability. Spring semester. Lecture 2 hours laboratory 1 hour. *Prerequisites:* ENGR 246, 247, 307 with grades of C or better.

### 362 Transportation Engineering I (3)

Introduction to planning, design, construction and maintenance of transportation systems. Particular emphasis is placed on highways and streets and analysis of current transportation issues. Fall semester. Lecture 3 hours. *Prerequisites:* ENGR 222, ENCE 260 with grades of C or better.

### 363 Structural Analysis I (3)

Principles of structural analysis and design. Analysis and design of trusses, beams, and frames using equilibrium and energy methods. Use of influence lines. Elastic deflections of trusses, beams, and frames. Computer analysis of structures utilizing these methods. Fall semester. Lecture 3 hours. *Prerequisites:* ENGR 246, 247 with grades of C or better.

### 364 Structural Engineering Design I (3)

Design criteria in structures. Behavior of steel and concrete beams and columns. AISC and ACI codes. Spring semester. Lecture 3 hours. *Prerequisite:* ENCE 363 with grade of C or better.

### 461 Foundation Analysis and Design (3)

Fundamental of soil mechanics as applied to the analysis and design of foundation systems; subsurface investigations; design of shallow and deep foundations. Retaining structures and lateral earth pressures. Fall semester. Lecture 3 hours. *Prerequisite:* ENGR 361 with grade of C or better.

**462 Transportation Engineering II (3)**

Perspectives and economics of transportation systems, rural and urban. Planning and design of highway, rail and air facilities. Spring semester. Lecture 3 hours. *Prerequisites:* ENCE 361, 362 with grades of C or better.

**463 Structural Analysis II (3)**

Analysis of statically indeterminate structures using compatibility methods, slope deflection and moment distribution methods, and stiffness methods. Energy methods of analysis. Computer analysis of structures utilizing these methods. Fall semester. Lecture 3 hours. *Prerequisite:* ENCE 363 with a grade of C or better.

**464 Structural Engineering Design II (3)**

Advanced design criteria in structures. Behavior of steel and concrete structures. AISC and ACI codes. Spring semester. Lecture 3 hours. *Prerequisite:* ENCE 364 with a grade of C or better.

**497r Research (1-4)**

On demand.

**498r Individual Studies (1-4)**

On demand.

**499r Group Studies (1-4)**

On demand.

## Engineering: Electrical (ENEE)

*Professor Ed McMahon, Director*

**Program Mission:** The electrical program educates students for professional practice or further study in electrical engineering, contributes to the body of knowledge in electrical engineering education, and creates a supportive environment that enables students and faculty to achieve their best.

**Program Objectives:** In support of this mission, the electrical program prepares students to take their places as responsible practitioners of EE in a multidisciplinary environment.

The electrical program faculty holds degrees in various emphasis areas of electrical engineering and is committed to a curriculum that is broad-based in the engineering fundamentals of analysis and design, and has a strong emphasis in electrical engineering. The electrical program curriculum provides breadth in the areas of electrical engineering plus emphases on electronics, instrumentation and control systems, and power systems. The curriculum is highly structured and is laboratory intensive.

### 2314 - Engineering: Electrical (ENEE)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152 (4 hours)

**Statistics:** Engineering 222 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** One approved fine arts course and one approved humanities course (6 hours)

**Cultures and Civilizations:** One approved Non-Western Cultures and Civilizations course (3 hours)

**Behavioral and Social Sciences:** Economics 101 and 102 or two approved behavioral science courses (6 hours)

**Major and Related Courses**

Chemistry 121/123

Mathematics 151/152, 161, 212, 245, 255

Physics 231/281

Engineering Fundamentals: 103, 104, 113, 185, 222, 246, 247, 270, 385, 485

Note: For qualified students, ENGR 495r, Departmental Honors (4 hours) may substitute for ENGR 485 (3 hours).

**Specialty and Related Courses**

Physics 232

Engineering Fundamentals: ENGR 225, 271, 305

Electrical Specialty: ENEE 272, 273, 274, 276, 325, 371, 372, 373, 375, 377, 378, 380, 381, 470, 472, 475, 477, 478

Technical Elective: One 3-hour 300-level or 400-level electrical specialty course OR one 3-hour 300-level or 400-level engineering or advisor-approved course.

128 hours (138 for co-op graduates).

Minimum 39 hours at the 300-400 level.

2.0 GPA in all engineering courses.

See page 35 for additional requirements.

### ELECTRICAL ENGINEERING COURSES (ENEE)

**272 Electrical Circuits II (3)**

LaPlace transforms. Transient response of dynamic circuits. Transformers. AC circuit analysis, AC power, three-phase circuits, power factor. Digital computer analysis of electrical circuits. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 270, 271 with grade of C or better; *Mathematics 245. Corequisite:* ENEE 273.

**273 Electrical Circuits II Laboratory (1)**

Measurement and analysis of transformers, AC circuits, power, three-phase systems, and power factor. Transient response. Spring semester. Laboratory 3 hours. *Corequisite:* ENEE 272.

**274 Digital Electronics (3)**

Digital electronics for the Electrical Engineering student. Semiconductors, digital logic, logic design, digital devices. Analysis of digital circuits employing digital devices. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 270 and 271 with grades of C or better. *Corequisite:* ENEE 276.

**276 Digital Electronics Laboratory (1)**

Fundamental digital behavior of semiconductor devices and amplifiers for the Electrical Engineering student. Realization of digital devices with standard integrated circuit logic families. Laboratory experiences and design projects. Spring semester. Laboratory 3 hours. *Prerequisites:* ENGR 270 and 271 with grades of C or better. *Corequisite:* ENEE 274.

**325 Signals and Systems (3)**

Time, sequence and frequency domain analysis of linear continuous-time and discrete-time systems. Direct solution methods for differential and difference equations, impulse response, convolution. LaPlace, Fourier and Z transform methods. State variables for discrete and continuous systems. Fall semester. Lecture 3 hours. *Prerequisites:* ENGR 270, 271 with grades of C or better, *Mathematics 245, 255.*

**371 Analog Electronics Laboratory (1)**

Fundamental analog behavior of semiconductor devices and amplifiers for the electrical engineering student. Laboratory experiences and design projects. Fall semester. Laboratory 3 hours. *Prerequisites:* ENEE 272, 273 with grades of C or better; or ENGR 270, 271 and CPSC 250 with grades of C or better. *Corequisite:* ENEE 372.

**372 Analog Electronics (3)**

Analog electronics for the Electrical Engineering student. Semiconductors, transistor amplifiers, operational amplifiers. Analysis of circuits employing semiconductor devices and amplifiers. Fall semester. Lecture 3 hours. *Prerequisites:* ENEE 272, 273 with grades of C or better; or ENGR 270, 271 and CPSC 250 with grades of C or better. *Corequisite:* ENEE 371.

**373 Automatic Control Systems Analysis and Design (3)**

Analysis and synthesis of feedback control systems for continuous and discrete time systems. Performance criteria. Routh-Hurwitz, root locus, Nyquist, Bode, and state space methods for stability determination. Analytic and computer aided techniques for design of systems to meet performance standards. Spring semester. Lecture 3 hours. *Prerequisites:* ENEE 272 and 273, or 325 with grades of C or better, *Mathematics 245, 255.*

**375 Electromagnetic Fields and Waves (3)**

Elementary fields and waves, static electric and magnetic fields; potential and vector fields; Gauss's Law; Ampere's Law; line integrals; vector calculus methods; Biot-Savart law; time varying electric and magnetic fields; Maxwell's equations. Fall semester. Lecture 3 hours. *Prerequisites:* ENEE 270, 271 with grade of C or better; PHYS 232, Mathematics 245, 255.

**377 Advanced Electronics (3)**

Study of advanced concepts in electronics. Design of practical and ideal operational amplifier circuits for given transfer functions. Design of active filters. Design of non-linear and pulse shaping circuits. Basic concepts of programmable controllers. Spring semester. Lecture 3 hours. *Prerequisites:* ENEE 371, 372 with grades of C or better. *Corequisite:* ENEE 378.

**378 Advanced Electronics Laboratory (1)**

A series of projects in advanced electronics culminating in a major design project, all totally designed by the student. Spring semester. Laboratory 3 hours. *Prerequisite:* ENGR 247 with grade of C or better. *Corequisite:* ENEE 377.

**380 Electrical Machinery (3)**

Magnetic circuits and transformers. Rotating electrical machinery; D.C. machines, synchronous machines, induction motors. Spring semester. Lecture 3 hours. *Prerequisites:* ENEE 272/273, 375, with grades of C or better. *Corequisite:* ENEE 381.

**381 Electrical Machinery Laboratory (1)**

Experimental study of transformer and machine behavior. Design project included. Spring semester. Laboratory 3 hours. *Corequisite:* ENEE 380.

**461 Power Electronics and Motor Drives (3)**

Power semiconductors, converters, controlled rectifiers systems, choppers, and inverters, commutator motor drives, induction motor drives, synchronous generators, motors, and drives. Senior elective, offered on demand. Lecture 3 hours. *Prerequisite:* ENEE 380 with grade of C or better.

**462 Protective Relaying (3)**

Protection fundamentals. Generator protection, transformer, reactor and shunt capacitor protection bus, motor, line protection and pilot protection. Senior elective, offered on demand. Lecture 3 hours. *Prerequisite:* ENEE 472 or equivalent with grade of C or better.

**464 Control of Robotic Systems (3)**

Information, decision and control problems associated with robotics. Analysis, modeling, and control of automated robotic systems. Sensors and robot vision. Non-linearity issues. Senior elective, offered on demand. Lecture 3 hours. *Prerequisite:* 373 with grade of C or better.

**466 Data Communications Systems (3)**

The study and design of digital communication systems. Synchronization of digital systems. Multiple access techniques and protocols for networks and satellite systems. Interference rejection, source encoding, error correction, data security. Senior elective, offered on demand. Lecture 3 hours. *Prerequisites:* ENGR 222, ENEE 377, 378, 473 with grades of C or better.

**468 Advanced Electronic Instrumentation Systems (3)**

Physical operation and design of modern discrete and integrated electronic structures and their application in signal processing. Response time, resolution, sensitivity, and noise considerations in instrumentation systems. Senior elective, offered on demand. Lecture 3 hours. *Prerequisites:* ENEE 377, 378, 477 with grades of C or better.

**470 Microprocessors Applications (3)**

Practical microprocessor principles, programming, and interfacing. Design of programs for basic data acquisition and control using the microprocessor as a system component. Review of number systems and digital logic. Fall semester. Lecture 2 hours. Projects 3 hours. *Prerequisites:* ENGR 225, ENEE 371, 372 with grades of C or better, and either ENEE 377, 378 with grades of C or better or CPSC 250.

**472 Power System Analysis and Design (3)**

Power Systems component modeling, transmission lines, machines, transformers. Load flow analysis, symmetrical components, symmetrical and unsymmetrical fault analysis. Fall semester. Lecture 3 hours. *Prerequisite:* ENEE 380 with grade of C or better.

**473 Communication Systems (4)**

Definitions and basic concepts of analog and digital modulation techniques. Fourier series and transform techniques used to study transmission of signals through linear filters, time-bandwidth relationships. Amplitude, frequency, and pulse modulation techniques described and analyzed. Periodic sampling and the Nyquist sampling criterion. Fall semester. Lecture 4 hours. *Prerequisites:* ENGR 222 and ENEE 373 with grades of C or better.

**474 Optical Fiber Communication (3)**

Optical fiber as a transmission medium using ray theory and wave theory approaches. Characteristics and practical aspects of optical fiber communications. Measurements undertaken in the laboratory and field. Light sources and detectors with particular emphasis on System design, application, and performance. Basic principles used for optical sensors. Electro-optic devices. On demand. Lecture 3 hours. *Prerequisites:* Physics 232, Mathematics 245, 255.

**475 Analog and Digital Communications (3)**

Definitions and basic concepts of analog and digital modulation techniques. Ethical considerations; global and societal effects of communications technology. Transmission of signals through linear filters, time-bandwidth relationships. Amplitude, frequency, and pulse modulation techniques described and analyzed. Periodic sampling and the Nyquist sampling criterion. Applications of probability to error rates and noise probabilities. Fall semester. Lecture 3 hours. *Prerequisites:* ENGR 222 and 325 with grades of C or better.

**477 Electronic Instrumentation (3)**

Basic principles of operation of commonly used sensors. Signal conditioning and grounding considerations. Introduction to programming of virtual instruments using software such as LabVIEW. Specification and design of systems to acquire, condition, display, and control using data from multiple sensors. Laboratory included. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 225, ENEE 377, 378 with grades of C or better.

**478 Sampled Data and Nonlinear Control Systems (3)**

Analysis and design of automatic control systems operating on discontinuous data and depending on either incremental or sampled continuous processes. Consideration of nonlinear systems analysis and design. Fall semester. Lecture 3 hours. *Prerequisite:* ENEE 373 with grade of C or better.

**497r Research (1-4)**

On demand.

**498r Individual Studies (1-4)**

On demand.

**499r Group Studies (1-4)**

On demand.

## Engineering: Environmental (ENEV)

Professor Michael Jones, Director

**Specialty Mission:** The mission of the environmental specialty is threefold: (1) to provide students with the knowledge and skills

required for a wide range of careers and graduate study in environmental engineering; (2) to provide service to the environmental engineering profession in our region and beyond; and (3) to maintain a supportive environment that encourages students and faculty to achieve.

**Specialty Objectives:** In support of this mission, the environmental specialty aims to produce graduates who

- participate in professional societies;
- agree that the environment at UTC was conducive to their achieving;
- work in multidisciplinary teams;
- are progressing toward professional registration;
- have the ability to function as environmental engineers;
- pursue graduate studies.

The environmental engineering specialty deals with the design of processes to reduce the impact of man's activities on the environment. The curriculum focuses on the reduction of pollution in air, water and solid waste from sources such as industry and utilities.

## 2316 - Engineering: Environmental (ENEV)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152 (4 hours)

**Statistics:** Engineering 222 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** One approved fine arts course and one approved humanities course (6 hours)

**Cultures and Civilizations:** One approved Non-Western Cultures and Civilizations course (3 hours)

**Behavioral and Social Sciences:** Economics 101 and 102 or two approved behavioral science courses (6 hours)

### Major and Related Courses

Chemistry 121/123

Mathematics 151/152, 161, 212, 245, 255

Physics 231/281

Engineering Fundamentals: 103, 104, 113, 185, 222, 246, 247, 270, 385, 485

Note: For qualified students, ENGR 495r, Departmental Honors (4 hours) may substitute for ENGR 485 (3 hours).

### Specialty and Related Courses

Biology 210

Chemistry 122/124, 351/353

Environmental Science 410

Geology 445

Engineering Fundamentals: ENGR 224, 303, 307, 308, 328, 329, 340, 352

Environmental Specialty: ENEV 331, 430, 433, 435, 437, 438, 439

128 hours (138 for co-op graduates).

Minimum 39 hours at the 300-400 level.

2.0 GPA in all engineering courses.

See page 35 for additional requirements.

## ENVIRONMENTAL ENGINEERING (ENEV)

### 331 Environmental Process Principles (3)

Quantitative relations of chemical reactions and physico-chemical processes with environmental applications. Calculations based on gases, vapors, humidity, and process material balances. Study of industrial processes involving thermophysics, thermochemistry, and heat balances. Fall semester. Lecture 3 hours. *Prerequisites:* Chemistry 121/123. *May be registered as ENCH 331. Credit not allowed in both ENCH 331 and ENEV 331.*

### 430 Environmental System Design (3)

Application of systems design techniques to the design of environmental processes. Discussion of case studies including separation processes, waste minimization, resource recovery and recycle, and process utilities. Individual or group design problems. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 385, ENEV 433, 435 with grades of C or better. *Corequisites:* ENEV 438, 439, Environmental Science 410. *May be registered as ENCH 430. Credit not allowed in both ENCH 430 and ENEV 430.*

### 431 Survey of Environmental Engineering (3)

A survey of environmental engineering practice and principles. Fundamental principles including material balances; energy balances; fluid mechanics, reaction kinetics. Applications to water, air and solid systems. Selected municipal and industrial case studies. On demand. Lecture 3 hours. *Prerequisites:* minimum of four semesters of laboratory sciences; Mathematics 136 or 151/152. *Does not count toward Environmental, Chemical or Civil Engineering undergraduate programs.*

### 433 Environmental Process Operations (3)

Fundamental variables of environmental process operations; generalized treatment of mass-transfer operations including separation processes. Application of fundamental principles of continuous and stage-wise separation processes applicable to resource recovery, recycle and reuse. Design project. Fall semester. Lecture 3 hours. *Prerequisites:* ENGR 222, 307, 308, ENEV 331 with grades of C or better. *May be registered as ENCH 433. Credit not allowed in both ENCH 433 and ENEV 433.*

### 435 Environmental Processes Laboratory (1)

Laboratory exercises in environmental operations, such as stripping, flooding and gas absorption, drying of solids, flow in porous media, and filtration. Design projects. Fall semester. Laboratory 3 hours. *Prerequisites:* ENGR 222, ENEV 331 with grades of C or better. *Corequisites:* ENEV 433, 437. *May be registered as ENCH 435. Credit not allowed in both ENCH 435 and ENEV 435.*

### 437 Municipal and Industrial Waste Management (3)

Survey of the regulations pertaining to industrial and municipal wastes. Including but not limited to toxic and hazardous wastes. Survey of approved collection, transportation and disposal techniques. Design considerations. Case studies. Individual or group design project. Fall semester. Lecture 3 hours. *Prerequisites:* ENEV 331 with grade of C or better; Chemistry 351/353, Geology 445.

### 438 Water Supply and Waste Water Treatment (3)

Principles of unit operations for physical, chemical, and biological treatment of water and wastewater. Water supply and distribution systems. Wastewater collection systems. Stormwater collection and treatment systems. Design project. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 222, 307, 308, ENEV 331 with grades of C or better; Geology 445.

### 439 Air Pollution Control (3)

Principles of control and remediation of contaminated air. Emphasis on design of air pollution control strategies for particulates, VOC's, SOx and NOx. Scrubbers, combustion and catalytic oxidation. Design project. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 222, ENEV 433 with grades of C or better.

### 497r Research (1-4)

On demand.

### 498r Individual Studies (1-4)

On demand.

### 499r Group Studies (1-4)

On demand.

## Engineering: Industrial (ENIE)

*Professor Ed McMahon, Acting Director*

**Specialty Mission:** The industrial specialty promotes life-long learning by providing accessible undergraduate, graduate, and continuing education in the theory and practical application of industrial engineering while creating a supportive environment

that enables students and faculty to excel.

**Specialty Objectives:** In support of this mission, the industrial specialty prepares industrial engineers who

- effectively evaluate, design, and implement integrated systems of people, materials, information, machines, and energy as required by business and industries;
- adapt to changing technologies and participate in further knowledge building opportunities such as professional and graduate education;
- think creatively, communicate effectively and function professionally and effectively in independent team environments.

The industrial specialty provides a program of study that embodies the realm of industrial engineering applications. The application of software tools and current industry practices are emphasized. The students' experiences culminate in a one-semester industrial engineering team project supported by industry.

The industrial specialty faculty has degrees in industrial engineering and engineering management as well as chemical, electrical, and mechanical engineering. Research interests include project management, operations research, system design, and knowledge management. The faculty has experience in a variety of service and manufacturing industry. The faculty works closely with the students in and out of the classroom.

## 2318 - Engineering: Industrial (ENIE)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152 (4 hours)

**Statistics:** Engineering 222 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** One approved fine arts course and one approved humanities course (6 hours)

**Cultures and Civilizations:** One approved non-Western Cultures and Civilizations course (3 hours)

**Behavioral and Social Sciences:** Economics 101 and 102 or two approved behavioral science courses (6 hours)

### Major and Related Courses

Chemistry 121/123

Mathematics 151/152, 161/162, 212, 245, 255

Physics 231/281

Engineering Fundamentals: 103, 104, 113, 185, 222, 246, 247, 270, 385, 485

Note: For qualified students, ENGR 495r, Departmental Honors (4 hours) may substitute for ENGR 485 (3 hours).

### Specialty and Related Courses

Engineering Fundamentals: ENGR 225, 248, 271, 305, 328, 329, 352, 370

Chemical Specialty: ENCH 331

Industrial Specialty: ENIE 350, 351, 354, 358, 441, 443, 450, 457, 458, 461

Technical Elective: One 3-hour 300-level or 400-level course in an engineering discipline or an advisor-approved 300-level or 400-level course from another program.

128 hours (138 for co-op graduates).

Minimum 39 hours at the 300-400 level.

2.0 GPA in all engineering courses.

See page 35 for additional requirements.

## INDUSTRIAL ENGINEERING COURSES (ENIE)

### 350 Introduction to Project Management (3)

Examination of the identification, selection, and planning of projects. Specific topics include: organization structure, project selection and scope definition, project team selection and development, work breakdown structures and statements of work, project scheduling (PERT/DPM) and budgeting, resource allocation, risk management planning, and project controlling. Project management software is applied. Fall semester. Lecture 3 hours. *Prerequisite or Corequisite:* ENGR 352.

### 351 Operations Research I (3)

Introduction to operations research, the methodology of mathematical modeling, the decision analysis, and its relation to problems in industrial, commercial, and public systems. The emphasis is on the use of linear mathematical programming including the simplex method, sensitivity analysis, transportation problems, integer programming, and goal programming. Fall semester. Lecture 3 hours. *Prerequisites:* ENGR 222 with grade of C or better; Mathematics 212, 245.

### 354 Work Measurement and Design (3)

Techniques for analysis and improvement of work methods; principles of motion economy, process charts, work sampling, standard data development, performance rating, predetermined time systems, and wage incentive systems. Emphasis on man-machine interfaces (ergonomics) and productivity improvements. Computer applications and design project included. Spring semester. Lecture 2 hours, laboratory 3 hours. *Prerequisites:* ENGR 222 or Management 211 with a grade of C or better.

### 358 Manufacturing Processes (3)

Introduction to the analytical tools of machine science such as heat treatment, metalworking, welding, vibrations, control theory, thermal processing, machine operations, and their applications to the solution of manufacturing problems. Emphasis is on the processes and applications of engineering theory to manufacturing problems. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 222, 246, 247 with grades of C or better; Physics 231; Chemistry 121/123.

### 441 Production and Operations Management (3)

The detailed study of designing a product or service through the processes and systems of making and delivering the product, and controlling the operations. Fundamental coverage of the concepts of competitiveness, productivity, forecasting, supply chain management, inventory management, JIT, MRP, ERP, and queuing theory basic quantitative techniques are explored. Spring semester. Lecture 3 hours. *Prerequisites:* ENIE 351 and 354 with grades of C or better.

### 443 Simulation and Modeling (3)

Simulation of complex discrete-event systems with applications in industrial and service organizations. Introduction to modeling, random number generation, simulation design, and current simulation software package. Applications include a variety of industrial situations, including manufacturing and logistics simulation. Spring semester. Lecture 3 hours. *Prerequisites:* ENGR 225 and ENIE 458 with grades of C or better. *Corequisite:* ENIE 441.

### 450 Industrial Engineering Design (3)

Culminating design experience in industrial engineering. Discussion of case studies including operations systems, manufacturing, quality, ergonomics, layout and scheduling. Includes team project with an application in manufacturing or service industry. Oral and written communication of progress and results is emphasized. Spring semester. Lecture 1 hour, project 4 hours. *Prerequisites:* ENGR 385 and ENIE 350, 358, 457, 458 with grades of C or better. *Corequisite:* ENIE 441.

### 451 Operations Research II (3)

Introduction to non-linear programming, dynamic programming, network models, and queuing theory. Emphasizes the use of game theory, inventory theory, queuing theory, Markov chains, forecasting, and network techniques with the engineering applications. Lecture 3 hours. *Prerequisite:* ENIE 351 with grade of C or better.

### 453 Value Engineering (3)

Introduction to concepts of Value Engineering and demonstration of the application of techniques to maximize the value in a product, process, or service while minimizing cost. Topics include functional analysis, functional costing, generation of alternative designs, evaluation of alternative designs, proposal preparation and presentation. Project required. *Prerequisite:* ENGR 352 with grade of C or better.

**455 Industrial Safety Engineering (3)**

The basic information about accident prevention methods and techniques, plant inspection, health hazards and their control, accident records and reports, employee selection, placement and counseling based on legal, management, and technical aspects of the application of system safety engineering. Lecture 3 hours. *Prerequisites:* ENIE 354 with grade of C or better, Senior standing, or approval of instructor.

**457 Quality Control (3)**

The design and analysis of quality systems. Fundamental coverage of statistical process control, quality control concepts, control charts, product specifications, process control, acceptance sampling systems, and other means of assurance widely used in many industries to improve product and service quality and to reduce costs. Fall semester. Lecture 3 hours; laboratory work included. *Prerequisite:* ENGR 222 or Management 211 with grade of C or better.

**458 Facilities Planning (3)**

Methods, techniques, and computer algorithms for planning facility layout, facility location, and activities and equipment planning are presented. Scheduling strategies that affect facility layout including push vs. pull operation, batch sizes, and dispatching rules are also discussed. Cellular technology, material handling, facility planning data collection methods, process flow-charting, and simulation of manufacturing facility layout are demonstrated. Fall semester. Lecture 3 hours; laboratory work included. *Prerequisite:* ENIE 354 with grade of C or better.

**461 Engineering Information Systems (3)**

Introduction to and application of the basic concepts, design, development, and uses of engineering information systems. Topics include architecture and components of engineering information systems, problem analysis, modeling, design, development, and system maintenance. Theoretical and practical issues related to the manipulation of engineering information and design of queries are discussed. Examples of engineering information systems are provided. Course culminates with a project. Fall semester. Lecture: 3 hours; laboratory work included. *Prerequisite:* ENGR 225 with grade of C or better.

**497r Research (1-4)**

On demand.

**498r Individual Studies (1-4)**

On demand.

**499r Group Studies (1-4)**

On demand.

## Engineering: Mechanical (ENME)

*Professor Michael Jones, Director*

**Program Mission:** The mechanical program prepares mechanical engineering students for successful careers in industry and academia, and provides service to the mechanical engineering profession and to the State of Tennessee.

**Program Objectives:** In support of this mission, the mechanical program aims to

- prepare mechanical engineering graduates who are techni-

cally competent;

- prepare students thoroughly in methods of analysis appropriate to solving mechanical engineering problems;
- develop skills pertinent to the design process, including economic considerations;
- teach students to use modern computer-based data acquisition and analysis for design and control of engineering systems;
- instill in our graduates an understanding of professional, societal, and ethical responsibilities and need for lifelong learning;
- produce graduates who are progressing towards professional licensure and continued professional development;
- produce graduates who are able to work effectively in teams and who demonstrate good communication skills.

The mechanical program curriculum offers two options: Energy Systems and Mechanical Systems. The Energy Systems option emphasizes applications of thermodynamics, fluid mechanics and heat transfer. The Mechanical Systems option emphasizes applications in the analysis and design of machine elements and mechanisms. Two courses differentiate the two options.

The mechanical program faculty have degrees in various emphasis areas of mechanical engineering and are committed to delivering a mechanical engineering curriculum that has strong emphasis on engineering analysis tools, utilization of modern, electronic instrumentation culminating with a mechanical engineering and interdisciplinary design experience.

### 2320 - Engineering: Mechanical (ENME)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152 (4 hours)

**Statistics:** Engineering 222 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** One approved fine arts course and one approved humanities course (6 hours)

**Cultures and Civilizations:** One approved non-western cultures and civilizations course (3 hours)

**Behavioral and Social Sciences:** Economics 101 and 102 or two approved behavioral science courses (6 hours)

**Major and Related Courses**

Chemistry 121/123

Mathematics 151/152, 161, 212, 245, 255

Physics 231/281

Engineering Fundamentals: 103, 104, 113, 185, 222, 246, 247, 270, 385, 485

Note: For qualified students, ENGR 495r, Departmental Honors (4 hours) may substitute for ENGR 485 (3 hours).

**Specialty and Related Courses**

Engineering Fundamentals: ENGR 224, 248, 303, 307, 308, 328, 329, 340, 352, 370

Industrial Specialty: ENIE 358

Mechanical Specialty: ENME 304, 309, 347, 348, 442, 443, 447, 450

ENME Option: Select one option:

Energy Systems: ENME 440, 441

Mechanical Systems: Two courses from ENME 445, 446, 448

128 hours (138 for co-op graduates).

Minimum 39 hours at the 300-400 level.

2.0 GPA in all engineering courses.

See page 35 for additional requirements.

**MECHANICAL ENGINEERING COURSES (ENME)****304 Mechanical Engineering Thermodynamics (3)**

A continuation of ENGR 303 (Thermodynamics) with an emphasis on mechanical engineering applications that involve energy (availability), power and refrigeration cycles, gas-vapor mixtures (psychometrics), and chemically reacting gases (combustion). Spring semester. Lecture 3 hours. *Prerequisite: ENGR 303 with grade of C or better.*

**309 Heat and Mass Transfer (3)**

Fundamental principles of heat, mass, and momentum transfer; application to macroscopic systems. Special emphasis on heat transfer by conduction and convection; analogy between heat and mass transfer. Design experience included. Spring semester. Lecture 3 hours. *Prerequisites: ENGR 303, 307 with grades of C or better.*

**347 Mechanical Engineering Experimentation (2)**

A course in the study of general characteristics of mechanical measurement systems; the study of electrical signals, computerized data acquisition systems, discrete sampling and time-varying signal analysis, statistical and uncertainty analysis of data; and the study of various sensing devices for solid-mechanical quantities, pressure, temperature, humidity, and flow. Fall and Spring semesters. Lecture 2 hours. *Prerequisites: ENGR 303, 307, 308, 222 with a grade of C or better. Corequisites: ENME 304, 309, 348.*

**348 Kinematics and Dynamics of Machinery I (3)**

Mobility analysis of planar mechanisms, the study of displacement, velocity and acceleration of planar mechanisms; the analysis and synthesis of various followers and plate cams; the analysis of spur, helical, bevel and worm gear systems with an introduction to simple and compound gear trains. Spring semester. Lecture 3 hours. *Prerequisites: ENGR 248 with grade of C or better, Mathematics 255.*

**440 Advanced Fluid Dynamics (3)**

Principles of continuity, momentum, and energy applied to flow measurements, turbomachinery, open channel flow, compressible flow, and computational fluid mechanics using text and/or supplemental software. Fall semester. Lecture 3 hours. *Prerequisites: ENGR 303, 307 308 with grades of C or better.*

**441 Energy Conversion (3)**

Broad based energy conversion as applied to steam power, gas turbines, internal combustion engines, and nuclear power systems with combustion analysis using appropriate computer software for analyzing equilibrium combustion products. Design experience. Spring semester. Lecture 3 hours. *Prerequisites: ENGR 303, 307, 308, ENME 304, 309 with grades of C or better.*

**442 Machine Design (3)**

The analysis of design of machine elements including fatigue-failure analysis of shafts, springs, screws, brakes, clutches, chains, belts, welds, and rivets, lubrication of journals, ball and roller bearings, and spur, helical, bevel, and worm gears. Design experience included. Spring semester. Lecture 3 hours. *Prerequisites: ENGR 246, 248, ENME 348 with grades of C or better.*

**443 Thermal Component Design (3)**

Design of individual components of thermal systems. Economic tradeoffs in sizing, choice of materials, number of passes, and other design criteria. Examples of heat exchangers, refrigerators, steam cycle components, and modern innovative concepts. Design experience included. Spring semester. Lecture 3 hours. *Prerequisites: ENGR 307, 308, ENME 304, 309 with grades of C or better.*

**445 Mechanical Vibrations (3)**

Free and forced vibrations of damped and undamped systems; single and multiple degrees of freedom using lumped parameter analysis. Matrix rotation: sweeping and rotation techniques. Design experience included. Spring semester. Lecture 3 hours. *Prerequisites: ENGR 248, ENME 348 with grades of C or better, Mathematics 245, 255.*

**446 Advanced Mechanics of Materials (3)**

Statically indeterminate structures; introduction to theory of elasticity; special topics in mechanics of materials. Design experience included. Fall semester. Lecture 3 hours. *Prerequisites: ENGR 246 with grade of C or better; Mathematics 245, 255.*

**447 Mechanical Engineering Experimentation Laboratory (2)**

The laboratory will provide experiences with instrumentation and data acquisition required for measuring temperature, pressure, liquid and gas flow rates, rotational speed, strain, displacement, velocity, acceleration, and combustion products. Design project is included. Fall and Spring semesters. Laboratory 2 hours. *Prerequisites: ENGR 222,303, 307, 308, ENME 304, 309, 347, 348 with grades of C or better. Corequisites: ENME 441 (for energy systems), or ENME 445 or 448 (for mechanical systems).*

**448 Kinematics and Dynamics of Machinery II (3)**

The study of compound and planetary gear trains and transmissions; static force analysis of mechanisms; dynamic force analysis of mechanism; balancing of rotating systems; dynamics of reciprocating engines, cam dynamics & vibration; analytic synthesis of linkage; introduction to robotics. Spring semester. Lecture 3 hours. *Prerequisites: ENGR 348 with grade of C or better, Mathematics 255.*

**450 Mechanical Engineering Design Project (3)**

Capstone mechanical engineering design experience; design of a thermal and/or mechanical system; consideration of engineering standards and realistic constraints that include most of the following considerations: economic, environmental, sustainability, manufacturability, ethical, health and safety, social, and political; application of the design process; oral presentations and written design report required. Spring semester. Lecture 2 hours, design lab 2 hours. *Prerequisite: ENGR 385. Prerequisites or Corequisites: ENME 442, 443 and 447.*

**497r Research (1-4)**

On demand.

**498r Individual Studies (1-4)**

On demand.

**499r Group Studies (1-4)**

On demand.

## Industrial Technology Management Program

*Professor Ed McMahan, Acting Director*

The industrial technology management program is an interdisciplinary program leading to a Bachelor of Science (B.S.) degree. The purpose of the program is to provide quantitative and qualitative engineering and business skills for problem solving. The program is intended as advanced preparation for the engineering technologist to serve a leadership role in a technical organization.

## 2305 - Industrial Technology Management (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152 (4 hours)

**Statistics:** Engineering 222 (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** One approved fine arts course and one approved humanities course (6 hours)

**Cultures and Civilizations:** One approved Non-Western Cultures and Civilizations course (3 hours)

**Behavioral and Social Sciences:** Economics 101 and 102 (6 hours)

### Major and Related Courses

Accounting 201, 202

Chemistry 121/123

Economics 101 and 102

Finance 302

Management 315, 330, 332

Marketing 313

Mathematics 145, 151/152, 161/162, 212

Physics 231/281

Psychology 406

Engineering Fundamentals: 103, 104, 113, 185, 222, 352

Industrial Specialty: ENIE 350, 351, 354, 441, 453, 457, 458

Technical Electives (23 hours): May come from 100 and 200 level engineering or physics courses. They may also come from an engineering technology curriculum. Advisement should be sought from program faculty as early as possible.

127 hours

Minimum 39 hours at the 300-400 level.

2.0 average in all engineering, accounting, finance, management, marketing and technical elective courses.

See page 35 for additional requirements.

Note: No more than 30 hours may be taken in the College of Business Administration and credited toward the degree.

## Computer Science

*Associate Professor Andy Novobilski, Head*

The Computer Science program provides the B.S. degree in computer science. Computer science majors take at least a 46-hour sequence of computer science courses and take additional courses in an area of concentration. The concentration of study augments the computer science courses and is a specialization in which the student can apply his or her knowledge of computers. Three concentrations are available: software systems, scientific applications, and computer engineering.

### Admission to the Computer Science Program

Students entering UTC who intend to major in Computer Science should be enrolled as pre-majors (0921). For admission to the Computer Science program, pre-majors must have completed Mathematics 145 and Computer Science 150 with grades of C or better. Only after meeting the course completion requirements or obtaining a written waiver from the Computer Science department head will students be allowed to change their major to any of the Computer Science concentrations.

## 2154 - Computer Science: Software Systems (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 151/152\* (4 hours)

**Statistics:** Mathematics 307 or Engineering 222 (3 hours)

**Natural Sciences:** One 2-semester laboratory science sequence chosen from: Biology 121, 122; Chemistry 121/123 or 125, 122/124 ; Geology 111/181, 112/182 (8 hours)

**Humanities and Fine Arts:** Computer Science 385\* and one approved fine arts course (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Economics 101\* and 102\* (6 hours)

### Major and Related Courses

Accounting: 201, 202; Economics 101# and 102#; Management 311; one course from English 276, 277 or 278

Computer Science core courses: Computer Science 150, 160, 251, 261, 305, 306, 312, 335, 351, 385#, 450, 460, 490r or 495r

9 hours of upper division (300 or 400-level) Computer Science electives

Mathematics 151/152#, 161/162, 212, 303, 307 or Engineering 222

1 additional 1-semester laboratory science course chosen from: Biology 121, 122;; Chemistry 121/123 or 125, 122/124; Geology 111/181, 112/182; Physics 230/280, 231/281, 232/282 (4 hours)

2.0 average required in all computer science courses excluding 110 and 111.

All majors must attain a minimum grade of C in all computer science core courses as a condition for graduation.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## 2155 - Computer Science: Scientific Applications (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 151/152\* (4 hours)

**Statistics:** Mathematics 307, or 408, or Engineering 222 (3 hours)

**Natural Sciences:** One 2-semester laboratory science sequence chosen from: Biology 121, 122; Chemistry 121/123 or 125, 122/124 ; Geology 111/181, 112/182; Physics 103/183, 104/184; or Physics 230/280, 231/281 (8 hours)

**Humanities and Fine Arts:** Computer Science 385\* and one approved fine arts course (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science



courses (6 hours)

### Major and Related Courses

Computer Science core courses: Computer Science 150, 160, 251, 261, 305, 306, 312, 351, 385#, 450, 460, 490r or 495r.

9 hours of upper division (300 or 400-level) Computer Science electives

Mathematics 151/152#, 161/162, 212, 245, 255, 303, 308

Mathematics 307, or 407 and 408, or Engineering 222

One additional 2-semester laboratory sequence chosen from Biology 121, 122; Chemistry 121/123 or 125, 122/124; Geology 111/181, 112/182; Physics 103/183, 104/184; or Physics 230/280, 231/281 (8 hours). If Biology or Geology is used to fulfill the General Education natural science requirement, the additional laboratory sequence must be chosen from Chemistry or Physics.

One course from English 276, 277, or 278

All majors must attain a minimum grade of C in all computer science core courses as a condition for graduation.

2.0 average required in all computer science courses excluding 110 and 111.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## 2150 - Computer Science: Computer Engineering (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 151/152\* (4 hours)

**Statistics:** Mathematics 307 or Engineering 222 (3 hours)

**Natural Sciences:** Chemistry 121/123 or 125 and Physics 230/280 (8 hours)

**Humanities and Fine Arts:** Computer Science 385\* and one approved fine arts course (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western Cultures and Civilizations OR Option B: World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Two approved behavioral or social science courses (6 hours)

### Major and Related Courses

Computer Science core courses: 150, 160, 251, 261, 305, 306, 312, 351, 385#, 460, 475, 490r or 495r

11 hours Computer Science/Electrical Engineering electives chosen from: Computer Science 420, 426, 430, 432, 440, 450, 476, 480, 497r, 498r, 499r; Electrical Engineering 325, 373, 377/378, 473, 474, 497r, 498r, 499r

Mathematics 151/152#, 161/162, 212, 245, 255, 303

Physics 231/281, 232/282

Engineering: 270/271 and 305 or 340 or 352

Electrical Engineering: 371/372

One course from English 276, 277 or 278

All majors must attain a minimum grade of C in all computer science core courses as a condition for graduation.

2.0 average required in all computer science courses excluding 110 and 111.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 128 hours.

See page 35 for additional requirements.

## 4538 - COMPUTER SCIENCE MINOR

23 hours in computer science including 150, 160, 251, 261, 312; one 400-level computer science course; one additional 300-400 level computer science course.

At least two 300-400 level courses must be taken at this institution.

Minimum 2.0 grade point average in the minor.

### COMPUTER SCIENCE COURSES (CPSC)

#### 110 Introduction to Computing (3)

Overview of the development of the electronic computer, its technology, capabilities,

and limitations. Ethical and social issues are considered, as well as the role of computers in society. Introduction to the use of a range of useful microcomputer hardware and software. Extensive laboratory experience. Credit not allowed in both Computer Science 102 and 110. *Prerequisites:* UTC Placement Level 20 or Mathematics 106 with a grade of C or better.

#### 111 Computer Information Systems II (3)

A study of the analysis, design, and implementation of business computer systems; system life cycle models; methods and techniques for systems development; advanced concepts in microcomputer application packages; introduction to a programming language such as BASIC. *Prerequisite:* CPSC 110.

#### 118 Computer Programming with FORTRAN (3)

An introduction to the concepts and techniques of computer science. Emphasis is placed on the design of efficient algorithms using the FORTRAN language. *Prerequisite:* Mathematics 131 or 145.

#### 150 Fundamentals of Computer Science (4)

An introduction to computer science concepts and computer software development using a higher level language. Algorithms, flowcharting, programming, and documentation of numerical and non-numerical problems. Introduction to computer science terminology and concepts such as computer hardware and computer application areas. Lecture 2 hours and laboratory 3 hours. *Prerequisites:* 4 years of college preparatory mathematics; UTC Math Placement Level 30 or Mathematics 131 or 144.

#### 160 Data Structures and Program Design (4)

Continued development of programming style using abstract data structures and top-down design. Debugging and testing of large programs. Emphasis on algorithm development. List processing. Recursion. (Stacks, trees, searching and sorting.) Lecture 3 hours and laboratory 2 hours. *Prerequisite:* CPSC 150 with a grade of C or better.

#### 199r Special Projects (1-4)

Individual or group projects. On demand. Maximum credit 4 hours.

#### 251 Introduction to Operating Systems (3)

Basic operating system principles, job control languages and operating system internals. The hardware/software interface; file systems; resource management; command languages; segmentation, paging and virtual memory; other virtual resources. Detailed examination of two or more current operating systems, such as Windows, UNIX or Novell NOS. *Prerequisite:* CPSC 160 with a grade of C or better.

#### 261 Software Design and Development (3)

A study of the analysis, design and implementation phases of software systems development using a phased life cycle approach. Process, data and object oriented development models. Introduction to modeling tools and CASE software. Team approaches to software development. Project management concepts. *Prerequisite:* CPSC 160 with a grade of C or better.

#### 305 Digital Logic and Introduction to Computer Hardware (4)

Number representation and arithmetic; basic digital devices and their Boolean representations; introduction to logical circuit design and simplification using Boolean algebra and Karnaugh maps; combinational logic building blocks such as multiplexers, demultiplexers, encoders, decoders, comparators, adders, ALUs; analysis and design of sequential logic circuits; sequential logic building blocks such as storage registers, shift registers and counters. Lecture 3 hours and laboratory 2 hours. *Prerequisite:* CPSC 150 with a grade of C or better.

#### 306 Computer System Organization & Assembly Language Programming (4)

Structure of digital computers; introduction to machine language, symbolic coding, and assembly language; register sets, instruction types, and addressing modes; assembler directives and macros; low-level input/output techniques; interrupts; procedure calls, returns, and stack operations; linking to high-level languages. Lecture 3 hours and laboratory 2 hours. *Prerequisites:* CPSC 160 and 305 with grades of C or better.

#### 312 Algorithm Analysis and Advanced Data Structures (3)

A study of data structures and the algorithms used to process them. Algorithms for handling strings, stacks, lists, trees and graphs. Sorting and searching techniques. Recursive and non-recursive algorithms. Efficiency considerations. Spring and Summer semesters. *Prerequisites: 261 and Mathematics 303 with grades of C or better.*

### 335 File and Data Base Processing (3)

A study of sequential, direct, and indexed sequential files. File sorting and searching techniques. Data compression and data encryption. Database concepts. Introduction to the relational model. *Prerequisite: CPSC 261 with grade of C or better.*

### 351 Systems Programming (3)

Structure and design of programs whose inputs are programs. Assemblers, interpreters, compilers, loaders and supervisors. Introduction to formal programming languages, syntactic descriptions, symbolic functions and manipulations. *Prerequisites: CPSC 261, 306 and Mathematics 303 with grades of C or better.*

### 385 Ethical and Social Issues in Computing (3)

This course examines the ethical and social issues arising from advances in computer technology and the responsibility that computer professionals and users have with regard to computer use by focusing on the intrinsic link between ethics and the law, how both try to define the validity of human actions, and on the moral and ethical dilemmas created by computer technology that challenge the traditional ethical and moral concepts. *Prerequisites: CPSC 110 or 150 and English 277 or 278 with grades of C or better.*

### 410 Programming Languages (3)

The study of the structure, design, and implementation of computer programming languages, including procedural, object-oriented, logic programming, and functional languages. Topics include language syntax and semantics, procedure and data abstraction, binding times, exception processing, support for concurrency, and language programming paradigms. *Prerequisites: CPSC 251 and 312 with grades of C or better.*

### 420 Computer Graphics Applications and Algorithms (3)

Computer graphics systems, system software, data structures for graphics devices and display processors, representational algorithms and packaged graphics software. *Prerequisite: CPSC 312 with grade of C or better.*

### 426 Computer Networks (3)

The theory, design, engineering, and installation of networks to connect digital computers. The course will prepare students to plan and implement a network. Also includes peer-to-peer networks, the client-server model, network operating systems, and an introduction to wide-area networks. The network and implementation tools may vary to meet current development trends. *Prerequisites: CPSC 251 and 305 with grades of C or better.*

### 430 Topics in Simulation (3)

Digital simulation. A study of simulation languages and simulation techniques for solving many types of research problems from management, engineering, and science; simulation of large systems, design of simulation experiments for optimization; applications using simulation languages. *Prerequisites: CPSC 312 with a grade of C or better and an approved course in statistics.*

### 432 Advanced Operating Systems (3)

Concepts and issues of operating system principles; procedure activation, storage allocation, system structure, performance evaluation, memory management, process management, security, and recovery procedures. An introduction to distributed operating systems; communication, synchronized and system structure in distributed systems. *Prerequisites: CPSC 251, 305, 306 and Mathematics 303 with grades of C or better.*

### 435 Data Base Management Systems (3)

Concepts and methods in the definition and management of databases; physical and logical database design; data modeling techniques; programming in a database environment; topics in database security, integrity, recovery and concur-

rence. *Prerequisites: CPSC 335 with grade of C or better or Senior standing in Computer Science and approval of instructor.*

### 440 Wide Area Networks (3)

The design, preparation, and delivery of information, applications, and services using client/server computing over a wide-area network. The network and implementation tools may vary to meet current development trends. *Prerequisite: CPSC 312 with a grade of C or better.*

### 444 Computer Network Security (3)

This course will focus on the security issues and procedures in computer and mobile communication networks. Topics include risk assessment and security policies, networks intrusion detection, forensics technologies, and current trends and research in security policies and technologies. *Prerequisites: CPSC 426 with grade of C or better and an approved course in statistics.*

### 445 Automata, Complexity, and Computability (3)

An introduction to the classical and contemporary theory of computation including automata, formal languages, Turing machines, recursive functions, computability and incomputability, complexity, and the classes of P and NP. *Prerequisites: CPSC 160 and Mathematics 303 with grades of C or better.*

### 450 Software Engineering (3)

Continued study of software development techniques with special consideration of the techniques used to produce large software systems. Planning, scheduling and managing software projects. Configuration management. Formal methods in requirements specification, design and testing. The course will include numerous individual and team programming projects. *Prerequisites: CPSC 261, Mathematics 303, and English 277 or 278 with grades of C or better.*

### 460 Computer Architecture (3)

An advanced course in computer architecture. Topics include classical uniprocessor architecture, computer arithmetic, instruction sets, control unit design including the basics of microprogramming, I/O operations, memory hierarchies, cache and virtual memory mechanisms, instruction and arithmetic pipelines, CISC, RISC, superscalar and superpipelined architectures, parallel architectures. *Prerequisites: CPSC 251 and 306 with grades of C or better.*

### 475 Advanced Computer Systems (3)

A study of representative computer systems including architectural features, hardware implementation, machine level programming, memory systems, I/O device interfacing, and system design. *Prerequisites: CPSC 305, 306, and 460 with grades of C or better.*

### 476 Embedded Microcontroller Systems (3)

Microcontroller systems architecture, advanced real-time signal interfacing techniques, I/O programming concepts, real-time realization of digital signal processing and filtering techniques. Projects included. *Prerequisites: CPSC 305, 306 and ENEE 371, 372 with grades of C or better.*

### 480 Introduction to Artificial Intelligence (3)

Artificial intelligence; simulation of cognitive behavior and self-organizing systems; heuristic programming including the use of list processing languages; data representation; pattern matching structures; applications in symbolic mathematics; survey of examples from representative application areas. *Prerequisite: CPSC 312 with a grade of C or better.*

### 490r Group Software Project (3)

A group design effort which will concentrate on developing a major software project. Oral and written presentations of progress and final results required. *Prerequisites: CPSC 251 and 261 with grades of C or better, and senior standing in computer science.*

**495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)** On demand. See "Departmental Honors," page 39.

### 497r Research (1-4)

On demand.

**498r Individual Studies (1-4)**

On demand.

**499r Group Studies (1-4)**

On demand.

# College of Health, Education and Professional Studies

*Professor Mary Tanner, Dean*

The primary goal of the College of Health, Education and Professional Studies is twofold: to prepare qualified people to be professional leaders in various roles within educational institutions, both public and private, and to prepare qualified personnel for careers in selected professional fields unrelated to school licensure.

All teacher licensure programs through the educational specialist's level are fully accredited by the National Council for Accreditation of Teacher Education (NCATE) and the Tennessee Department of Education.

Successful completion of all degree and licensure requirements of any undergraduate program administered by the college, excluding selected program concentrations offered in the Departments of Human Ecology and Exercise Science, Health, and Leisure Studies, qualifies the student for initial licensure in Tennessee, provided the student scores on the PRAXIS II tests at or above the minimum required by the Tennessee Board of Education at the time of application for initial licensure.

Title II of the Higher Education Act of 1998 requires teacher preparation institutions to report Praxis II test scores and other data. The federal report for 2001-2002 was issued in October of 2003 and is available at <http://www.title2.org>. UTC's single assessment pass rates were 100 percent in all content areas; aggregate pass rates were 99 and 100 percent. Data submitted for the 2002-2003 reporting year were available in October 2004.

The programs in education are designed to provide preparation for individuals seeking to enhance their ability to perform effectively in a variety of leadership roles in educational settings. While tied to licensure or credentialing in most cases, in every case the program seeks to prepare a thoughtful, informed practitioner of learning and leading. The coursework shaped around this reflective practice model constitutes an approach that is based on a coherent set of beliefs about how best to prepare students to enter educational settings.

**Exercise Science, Health, and Leisure Studies**  
*Professor David Cundiff, Head*

**Human Ecology**  
*Associate Professor Linda Cundiff, Head*

**School of Nursing**  
*Associate Professor Kay Lindgren, Head*

**Physical Therapy**  
*Assistant Professor Catherine R. Smith, Head*

**Teacher Preparation Academy**  
*Associate Professor Valerie Rutledge, Head*

**Graduate Studies Division**  
*Associate Professor Anthony Lease, Head*

**Courses of Study**  
*Undergraduate*—The college offers approved undergraduate programs leading to the Bachelor of Science degree and eligibility for teacher licensure in Tennessee and in those states which grant reciprocity privileges to graduates of institutions accredited by NCATE. Courses of study include:

- Art Education (K-12)
- Early Childhood (PreK-4), see Human Ecology
- Exceptional Learning (K-12)
- Exercise Science (Health and Exercise Science Pedagogy)
- Foreign Language Education (K-12) (French, Latin, Spanish)
- Middle Grades Education (5-8)
- Music Education (K-12) (B.M.)
- Secondary Education (7-12) with concentrations in English, mathematics, natural sciences (biology, chemistry, earth and space science, physics), and social sciences (economics, geography, political science, history)
- Theatre Education (K-12)

### Additional Courses of Study

In addition to programs leading to initial teacher licensure or endorsement, the college provides courses of study in Human Ecology (child and family studies, interior design, and food and nutrition), Exercise Science, Health, and Leisure Studies (fitness/wellness, leisure studies and sports administration), Physical Therapy, and Nursing.

*Graduate* — The School of Educational Leadership, through the Graduate Studies Division, offers NCATE accredited and Tennessee approved programs which lead to the Master of Education (M.Ed.) degree and the Master of Science (M.S.) degree with a concentration in Athletic Training. The Educational Specialist in Instructional Technology or School Psychology is also offered. For further information, refer to the UTC Graduate Bulletin, the Graduate School Office, 103 Race Hall, or the Graduate Studies Division within the college.

### Professional Development School I (PDS I)

The Professional Development School I (PDS I) is an intensive, semester-long field experience. Participants spend all day, every day, in a cohort assigned to a local school. In this exploratory experience, the University students work with the faculty and students at all levels of grades K-12, both in the classroom and in non-classroom settings. University faculty provide on-site instruction through an integrated presentation.

PDS I participants complete PDS Lab and Seminar (Education 499) in addition to a predetermined core of courses specific to each discipline. Listed below are the courses required for PDS I within the appropriate discipline.

Early Child Education: PreK-4: Education 306, 323, 400,

Human Ecology 241 and 445

Foreign Language Education: Education 321, 400, 418, 433, Human Ecology 242

Middle Grades Education: Education 306, 321, 400, 418, Human Ecology 242 and 445

Secondary Education (English, Mathematics, Natural Sciences and Social Sciences) Education 321, 400, 418, 433, Human Ecology 242

Exceptional Learning: K-12: Education 317, 323, 336, 400, Human Ecology 241 or 242, and 445

Students pursuing teacher licensure through UTC's teacher preparation program must meet requirements in four sequential checkpoints. Effective for students enrolled in Education 201 in fall of 2004 or subsequent semesters, the checkpoints control admission to PDS I, admission to the Teacher Education Program, admission to student teaching and recommendation for licensure.

Included in the checkpoint requirements are successful completion of specified coursework, achievement of appropriate grade point averages, and appropriate test scores on the ACT, SAT or Praxis I as well as on the state-mandated Praxis II tests for the licensure area. In addition, specified paperwork must be submitted in each checkpoint. Success in meeting checkpoint requirements leads to success in completing the teacher preparation program.

### Admission to the Teacher Education Program (TEP)\*

Applicants who demonstrate qualifications and characteristics reasonably expected for entry into the teaching profession will be considered for admission to the teacher education program. Selection of qualified students is usually made on the basis of application during the sophomore year, with the exception of transfer students who are required to complete a semester of residence at UTC before their admission can be finalized. *Applications should be filed no later than the first semester of the junior year.* A student who has not been officially admitted to the TEP will not be permitted to register for certain 400-level professional education courses. Prior to formal application to the TEP, freshman, sophomore, and particularly transfer students must consult with an advisor in the College of Education and Applied Professional Studies to plan their programs. This advisory procedure also applies to students (including post-baccalaureate and graduate) seeking initial teacher licensure or endorsement.

All students (undergraduate, post-baccalaureate and graduate) must satisfy official TEP admission standards set by UTC, the Tennessee Department of Education, and the College of Health, Education and Professional Studies. A student who has earned a degree or credit hours at another institution may be required to enroll in additional courses, including the student teaching experience or practicum, to verify competency in those teaching fields for which initial teacher licensure or endorsement is being requested through a UTC recommendation.

To be considered for admission to the TEP\*, an undergraduate or post-baccalaureate student must:

1. File a formal application signed by a College of Health, Education and Professional Studies faculty advisor.
2. Earn a minimum 2.5 cumulative grade point average, a 2.5 average on all courses taken at UTC, a 2.5 in education courses with no grade lower than C, and a 2.5 in content area courses with no grade lower than C.
3. Complete the Praxis I tests or an approved equivalent and earn at least the minimum score on each section as mandated by the Tennessee Board of Education for the particular year in which the battery is taken.
4. Submit all other appropriate information (essay and resume) prior to scheduling the TEP interview.
5. Complete an interview and receive a positive recommendation from the TEP interview committee.
6. Show evidence of reasonable physical fitness, emotional maturity, high moral character, and commitment to professional education. Violations of the honor code or student behavior policies as stated in the current UTC Student Handbook may be reviewed by the TEP Committee and may impact the final decision regarding admission to the TEP and/or approval for student teaching experiences.
7. Students pursuing any degree in education which leads to licensure must meet all required elements at each level of the Checkpoints in order to be able to move forward to additional courses. These provisions include not only those established by the UTC Teacher Preparation Academy, but also those mandated by the school systems in which students complete field placements. Education students must successfully meet the requirements for an initial Background Screening at Checkpoint 1 and must also pass an FBI/TBI Fingerprinting

Procedure prior to admission to the student teaching experience. Failure to meet these or any other parts of any Checkpoint will prevent an individual from advancing to the next level.

*\*Final responsibility for ensuring that these requirements are met prior to being admitted to the Teacher Education Program rests with the student.*

Applicants will receive notification of their TEP status following the interview. An applicant who is denied admission will be notified of the deficiencies and of suggested resources or activities which may correct these. Decisions of the TEP Committee may be appealed. Information may be obtained from the TEP Committee chair.

### **Tests for Admission to Teacher Education Programs**

Individuals seeking admission to teacher education programs in Tennessee must pass the Praxis I Pre-Professional Skills Test (PPST). The Tennessee Board of Education has also approved two additional options for admission of teacher candidates. Undergraduate or post-baccalaureate applicants who have attained an ACT composite test score of 21 or above or a composite test score of 22 or above on the Enhanced ACT or who have attained a combined verbal and mathematics score on the SAT of 920 or above or 1020 or above on the Recentered SAT shall be exempt from the Praxis I.

UTC is committed to strict adherence to Tennessee Board of Education requirements regarding official admission to the TEP. An applicant to the TEP may take the required test(s) an unlimited number of times.

For full teacher licensure, the Tennessee Board of Education requires the achievement of state-approved minimum scores on specified tests of the Praxis II Series. Information about the tests may be obtained from the Certification Office or the UTC Testing Center.

### **Admission to Student Teaching\***

The application for admission to the student teaching semester must be filed approximately six months preceding the actual experience. If a student plans to student teach during the spring semester of an academic year, the application must be completed and on file no later than September 1 of the preceding year. For the fall semester of an academic year, the application should be completed and on file no later than the preceding March 1.

Application for student teaching is not necessarily contingent upon official admission to the TEP; therefore, a student should apply for student teaching to comply with the required deadline dates. However, a student will not be permitted to student teach until he or she has satisfactorily met all requirements for admission to the TEP.

Before admission to student teaching, the undergraduate or post-baccalaureate student must:<sup>1</sup>

1. Secure official admission to the TEP.
2. Submit student teaching application with signature of assigned faculty advisor.
3. Satisfactorily complete all professional education courses.
4. Satisfactorily complete at least 90 percent of coursework in content area(s).

5. Earn a minimum grade point average of 2.5 on courses completed at UTC, a cumulative 2.5 grade point average on all courses, a 2.5 grade point average in professional education courses with no grade lower than C, a 2.5 grade point average in content area courses with no grade lower than C.

6. Submit five copies of a resume.

7. Students pursuing any degree in education which leads to licensure must meet all required elements at each level of the Checkpoints in order to be able to move forward to additional courses. These provisions include not only those established by the UTC Teacher Preparation Academy, but also those mandated by the school systems in which students complete field placements. Education students must successfully meet the requirements for an initial Background Screening at Checkpoint 1 and must also pass an FBI/TBI Fingerprinting Procedure prior to admission to the student teaching experience. Failure to meet these or any other parts of any Checkpoint will prevent an individual from advancing to the next level.

*\*Final responsibility for ensuring that these requirements are met prior to being admitted to student teaching rests with the student.*

All students seeking teaching licensure must meet the student teaching requirement. Student teaching (PDS II) is a full-semester experience; participants are placed in cohorts in two schools having different characteristics. Assignments vary according to state requirements for the licensure sought.

Student teaching is evaluated on a satisfactory/no credit basis. Successful completion of student teaching requires meeting all of the requirements of the field placements plus passing scores on all of the required Praxis II tests. A student not satisfactorily completing student teaching will receive a grade of no credit and may have the opportunity to repeat the course.

Final authority for the student teaching placement and teaching assignment rests with the Teacher Education Program Committee and the department head in the Teacher Preparation Academy. As a general rule, a student is neither located in the school from which he or she recently graduated nor placed under the supervision of a relative.

### **Student Teaching Orientation**

General orientation seminars concerning student teaching and the professional education semester are held for all prospective student teachers preceding the student teaching semester. Non-attendance could delay the student teaching experience. Seminars are also held during the student teaching semester, and attendance is mandatory.

Under special circumstances, policies, procedures, and requirements for admission to the TEP and student teaching may be waived or revised at the discretion of the dean of the College of Health, Education and Professional Studies.

### **Recommendation for Licensure**

The School of Educational Leadership will recommend licensure for only those students who have successfully completed one or more of the UTC initial licensure or endorsement programs approved by the Tennessee Department of Education. Application forms may be obtained from the Office of Records

and Registration, 109 Race Hall, or from the Certification Office, 203 Hunter Hall.

Tennessee regulations stipulate that the applicant for an initial teaching license or additional endorsement must be recommended by the designated certifying officer and dean of an approved teacher training institution. To receive this recommendation, the applicant must:

1. Obtain official admission to the TEP.
2. Earn a minimum grade point average of 2.5 in courses completed at UTC, a cumulative 2.5 grade point average on all courses, a 2.5 grade point average in professional education courses with no grade lower than C, a grade point average of 2.5 in content area courses with no grade lower than C.
3. Satisfactorily complete the student teaching experience or an approved alternative.
4. Fulfill specific departmental requirements in the area of concentration.
5. Achieve minimum scores on the Praxis II tests mandated by the Tennessee Board of Education. (Credit for student teaching will not be granted without fulfillment of this requirement.)

*\*Final responsibility for satisfying all requirements for licensure recommendation by UTC rests with the individual applicant.*

UTC does not guarantee that satisfactory completion of a program listed in the UTC Catalog at the time of a student's initial admission to the University will meet all the licensure requirements at the time the person applies for initial licensure. This means that UTC will recommend only those applicants who have met all the licensure requirements in effect at the time of the University recommendation.

Any student who completes a licensure program at UTC, regardless of whether he or she intends to teach in Tennessee, should apply for Tennessee licensure since many states require an applicant to be licensed in the state where he or she graduated and/or completed an initial licensure program. Licensure standards change frequently; hence, it is prudent to apply for licensure immediately upon graduation or program completion.

A student is considered to have completed UTC's teacher preparation program when Tennessee standards for the Praxis II tests for licensure are met, all course work requirements have been fulfilled, and the degree appropriate to the program has been awarded.

A student who anticipates teaching outside Tennessee is strongly encouraged to request a check sheet of certification requirements from the Department of Education Office of Certification for the state in which he or she plans to teach. Course and competency requirements to satisfy out-of-state certification standards may be in addition to Tennessee licensure requirements and UTC approved degree requirements.

Graduation with a master's degree from UTC does not guarantee licensure in any specific area. However, in some instances a student may satisfy all the Tennessee requirements for licensure by completion of a state approved master's degree program at UTC.

## 2087 - Art Education (B.S.)

See College of Arts and Sciences page 46.

# Middle Grades Education (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 214\* (4 hours)

**Statistics:** One approved statistics course\* (3 hours)

**Natural Sciences:** One approved biological science course with lab\*, and one approved physical science course with lab\* (8 hours)

**Humanities and Fine Arts:** History 204\* and one approved fine arts course (6 hours)

**Cultures and Civilizations:** Western Humanities I and II (6 hours) and Geography 103\* (3 hours)

**Behavioral and Social Sciences:** Economics 102\* and Political Science 101\* (6 hours)

The PDS I requirements for this major include Education 306, 321, 400, 418, 499r, Human Ecology 242, 445

Each Middle Grades Education major must also complete the requirements for one of the following concentrations and for an area of emphasis other than the selected concentration.

## 2225 - Middle Grades Education: English

### Major and Related Requirements

Economics 102#; English 229 and 410; Exercise Science, Health, and Leisure Studies 447; Geography 103#; History 204#; Human Ecology 445; Mathematics 214#; Political Science 101#; University Studies 311 and 320

One approved statistics course#

One approved biological science course with lab#

One approved physical science course with lab#

One approved fine arts course#

### Professional Education Requirements

Education 201, 306, 321, 400, 418, 423, 446, 450, and Human Ecology 242.

### Concentration Requirements (15 hours)

English 205, 206, 300, one Literature elective for diversity and one additional literature elective.

Complete requirements for one of the following areas of emphasis. *Note: A student must select an area of emphasis different from the concentration.*

**Mathematics:** Minimum 9 hours selected from Mathematics 131, 136, 145, 151/152, 161/162, 212, 307 or maximum of 4 hours Mathematics electives.

**Natural Sciences:** Chemistry 121/123 and one course from Astronomy 102/182, Biology 121,122, Geology 111/181, Physics 103/183, 104/184 (8 hours)

**Social Sciences:** Geography 101; History 203; and one course from History 103, 104, 105 (9 hours)

*NOTE: Courses used to meet general education/major related requirements may not be used to satisfy concentration and area of emphasis requirements.*

## 2226 - Middle Grades Education: Mathematics

### Major and Related Requirements

Economics 102#; English 229 and 410; Exercise Science, Health, and Leisure Studies 447; Geography 103#, History 204#; Human Ecology 445; Mathematics 214#; Political Science 101#; University Studies 311 and 320  
One approved statistics course#  
One approved biological science course with lab#  
One approved physical science course with lab#  
One approved fine arts course#

### Professional Education Requirements

Education 201, 306, 321, 400, 418, 423, 446, 451, and Human Ecology 242.

### Concentration Requirements

Minimum 15 hours in Mathematics selected from 131, 136, 145, 151/152, 161/162, 212, 307 or maximum 4 hours Mathematics electives.

Complete requirements for one of the following areas of emphasis.

**English:** English 205, 206 and one English literature elective (9 hours)

**Natural Sciences:** Chemistry 121/123 and one course from Astronomy 102/182, Biology 121,122, Geology 111/181, Physics 103/183, 104/184 (8 hours)

**Social Sciences:** Geography 101; History 203; and one course from History 103, 104, 105 (9 hours)

*NOTE: Courses used to meet general education/major related requirements may not be used to satisfy concentration and area of emphasis requirements.*

## 2227 - Middle Grades Education: Natural Sciences

### Major and Related Requirements

Economics 102#; English 229 and 410; Exercise Science, Health, and Leisure Studies 447; Geography 103#; History 204#; Human Ecology 445; Mathematics 214#; Political Science 101#; University Studies 311 and 320  
One approved statistics course#  
One approved biological science course with lab#  
One approved physical science course with lab#  
One approved fine arts course#

### Professional Education Requirements

Education 201, 306, 321, 400, 418, 423, 446, 454, and Human Ecology 242.

### Concentration Requirements

Biology 121, 122, Chemistry 121/123 and one course from Astronomy 102, Geology 111, Physics 103 or Physics 104

Complete requirements for one of the following areas of emphasis.

**English:** English 205, 206 and one English literature elective (9 hours)

**Mathematics:** Minimum 9 hours selected from Mathematics 131, 136, 145, 151/152, 161/162, 212, 307 or maximum of 4 hours Mathematics electives.

**Social Sciences:** Geography 101; History 203; and one course from History 103, 104, 105 (9 hours)

*NOTE: Courses used to meet general education/major related requirements may not be used to satisfy concentration and area of emphasis requirements.*

## 2228 - Middle Grades Education: Social Sciences

### Major and Related Requirements

Economics 102#; English 229 and 410; Exercise Science, Health, and Leisure Studies 447; Geography 103#; History 204#; Human Ecology 445; Mathematics 214#; Political Science 101#; University Studies 311 and 320  
One approved statistics course#  
One approved biological science course with lab#  
One approved physical science course with lab#  
One approved fine arts course#

### Professional Education Requirements

Education 201, 306, 321, 400, 418, 423, 446, 452 and Human Ecology 242.

### Concentration Requirements

Geography 101, History 103, 104, 105, and 203,

Complete requirements for one of the following areas of emphasis.

**English:** English 205, 206 and one English literature elective (9 hours)

**Mathematics:** Minimum 9 hours selected from Mathematics 131, 136, 145, 151/152, 161/162, 212, 307 or maximum of 4 hours Mathematics electives.

**Natural Sciences:** Chemistry 121/123 and one course from Astronomy 102/182, Biology 121,122, Geology 111/181, Physics 103/183, 104/184 (8 hours)

*NOTE: Courses used to meet general education/major related requirements may not be used to satisfy concentration and area of emphasis requirements.*

For graduation: 2.0 grade point average in College of Health, Education and Professional Studies courses.

For licensure: 2.5 cumulative grade point, 2.5 grade point average for all UTC course work, and 2.5 grade point average in education courses and content area courses with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses.

Electives to total 120 hours.

See page 35 for additional requirements.

\* Also satisfies requirement in the major.

# Also satisfies general education requirement.

## 3670 and 3672 - Music Education (B.M.)

See *College of Arts and Sciences* page 86.

## Foreign Language Education: French, Latin, or Spanish (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Music 111 or Art 111\* and one approved humanities/fine arts course (6 hours)

**Cultures and Civilizations:** History 103\*, 104\* and 105\* (9 hours)

**Behavioral and Social Sciences:** Psychology 101\* and one additional approved social science course (6 hours)

The PDS I requirements for this major include Education 321, 400, 418, 433, 499 and Human Ecology 242.

Each Foreign Language Education major must complete the requirements for one of the following concentrations.



## 2526-Foreign Language Education: French

### Major and Related Courses

Anthropology 208; one course from Art 111 or Music 111#; Computer Science 110 or Education 417; History 103#, 104#, 105#; Human Ecology 241, 242; Psychology 101#; University Studies 340  
One approved Behavioral/Social Science course# and one approved statistics course#

### Concentration Requirements

27 hours of French including 311, 312, 321, 323, 331, 332, 401, 430 or Foreign Languages 010, and electives to complete 27 hours in French

### Professional Education Requirements

Education 201, 313, 321, 400, 418, 431, 433, 447

## 2527-Foreign Language Education: Latin

### Major and Related Courses

Anthropology 208; one course from Art 111 or Music 111#; Computer Science 110 or Education 417; History 103#, 104#, 105#; Human Ecology 241, 242; Psychology 101#; University Studies 340  
One approved Behavioral/Social Science course# and one approved statistics course#

### Concentration Requirements

23 hours of Latin and Classics including: 201, 202, 310, 312, 350, 351, 425; Classics 310

### Professional Education Requirements

Education 201, 313, 321, 400, 418, 431, 433, 447

## 2528-Foreign Language Education: Spanish

### Major and Related Courses

Anthropology 208; one course from Art 111 or Music 111#; Computer Science 110 or Education 417; History 103#, 104#, 105#; Human Ecology 241, 242; Psychology 101#; University Studies 340  
One approved Behavioral/Social Science course# and one approved statistics course#

### Concentration Requirements

27 hours of Spanish including 311, 312, 321, 322, 323 or 325, 331, 401, 430 or Foreign Languages 010, and electives to complete 27 hours in Spanish

### Professional Education Requirements

Education 201, 313, 321, 400, 418, 431, 433, 447

For graduation: 2.0 average in foreign language and 2.0 average in College of Health, Education and Professional Studies courses.

For licensure: 2.5 cumulative average, 2.5 average at UTC, 2.5 average in education courses with no grade lower than C, 2.5 average in content area courses with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional information.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

## 2976 - Secondary English (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Music 111 or Art 111\* and History 203 or 204\* (6 hours)

**Cultures and Civilizations:** Western Humanities I and II (6 hours) and Anthropology 208\* (3 hours)

**Behavioral and Social Sciences:** Psychology 101\* and one additional approved social science course (6 hours)

The PDS I requirements for this major include Education 321, 400, 418, 433, 499 and Human Ecology 242.

### Major and Related Courses

History 203 or 204#, and History 323 or 324

One year of a foreign language at the college level (6-8 hours)

Anthropology 208#, One course from Art 111 or Music 111#, Computer Science 110 or Education 417, Psychology 101# and one approved statistics course#

### Concentration Requirements

36 hours English including English 113#, 115#, 205, 206, 229, 300, 307, 361, 370, 410, 460; one elective English course in novel, and one elective English course in literature for diversity.

### Professional Education Requirements

Education 201, 321, 400, 418, 433, 443, 450 and Human Ecology 242

For graduation: 2.0 cumulative and UTC grade point average, 2.0 grade point average in English, and 2.0 grade point average in College of Health, Education and Professional Studies courses.

For licensure: 2.5 cumulative and UTC grade point average, 2.5 in education courses with no grade lower than C, 2.5 in content area courses with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

## 2980-Secondary Mathematics (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 151/152\* (3 hours)

**Statistics:** Mathematics 307 or 407\* (3 hours)

**Natural Sciences:** Physics 230/280\* and Physics 231/281\* (8 hours)

**Humanities and Fine Arts:** One approved humanities course and one approved fine arts courses (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II (6 hours) and one approved Non-Western Cultures and Civilizations course (3)

**Behavioral and Social Sciences:** Psychology 101 and one approved behavioral/social science course (6 hours)

The PDS I requirements for this major include Education 321, 400, 418, 433, 499 and Human Ecology 242.

**Major and Related Courses**

Computer Science 110 or Education 417, Computer Science 150, Physics 230/280# and 231/281#, Psychology 101#

**Concentration Requirements**

Mathematics 151/152#, 161/162, 212, 245, 255, 300, 321, 350, 430, 452 and Mathematics 307# plus 9 hours electives in mathematics, OR Mathematics 407# and 408 plus 6 hours electives in mathematics

**Professional Education Requirements**

Education 201, 321, 400, 418, 433, 443, 451, and Human Ecology 242

For graduation: 2.0 average in Mathematics and 2.0 average in College of Health, Education and Professional Studies courses.

For licensure: 2.5 cumulative average, 2.5 at UTC, 2.5 average in education courses with no grade lower than C, 2.5 average in content area courses with no grade lower than C.

Minimum of 42 hours of 300 and 400 level courses.

Electives to complete 128 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

## Secondary Natural Sciences (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course selected from Mathematics 131, 136, 145 or 151 (3 hours)\*

**Statistics:** One approved statistics course\* (3 hours)

**Natural Sciences:** Biology 121\* and Chemistry 121/123\* (8 hours)

**Humanities and Fine Arts:** One approved humanities course and one approved and fine arts courses (6 hours)

**Cultures and Civilizations:** Option A: Western Humanities I and II (6 hours) and one approved Non-Western Cultures and Civilizations course (3)

**Behavioral and Social Sciences:** Psychology 101\* and one approved behavioral/social sciences course (6 hours)

The PDS I requirements for this major include Education 321, 400, 418, 433, 499 and Human Ecology 242

All secondary natural sciences majors must complete at least one of the following concentrations.

## 2973-Secondary Natural Sciences: Biology

**Major and Related Courses**

Astronomy 102/182; Biology 121#; Chemistry 121/123# and 122/124; Computer Science 110 or Education 417; Psychology 101#; one approved statistics course#

**Concentration Requirements**

Geology 111/181; Mathematics 131 or 145; Physics 103/183; Biology 122, 208, 209, 325, 326

One course from each of the following areas:

- Ecology: Biology 306 and 307 or Biology 416
- Evolution: Biology 315, 450
- Physiology: Biology 210, 311, 304, 323, 463
- Botany or Zoology: Biology 312, 313, 342, 352

**Professional Education Requirements**

Education 201, 321, 400, 418, 433, 443, 454 and Human Ecology 242

## 2975-Secondary Natural Sciences: Chemistry

**Major and Related Courses**

Astronomy 102/182; Biology 121#; Chemistry 121/123# and 122/124; Computer Science 110 or Education 417; Psychology 101#; one approved statistics course#

**Concentration Requirements**

Biology 122; Chemistry 341, 342, 351/353, 352/354, 466; Geology 111/181; Mathematics 136; Physics 103/183, 104/184

**Professional Education Requirements**

Education 201, 321, 400, 418, 433, 443, 454 and Human Ecology 242

## 2982-Secondary Natural Sciences: Earth and Space Sciences

**Major and Related Courses**

Astronomy 102/182; Biology 121#; Chemistry 121/123# and 122/124; Computer Science 110 or Education 417; Psychology 101#; one approved statistics course#

**Concentration Requirements**

Geography 101; Geology 111/181, 112/182, 303, 321, 341, 342; Mathematics 131 or 145; Physics 103/183, 104/184

**Professional Education Requirements**

Education 201, 321, 400, 418, 433, 443, 454 and Human Ecology 242

## 2987-Secondary Natural Sciences: Physics

**Major and Related Courses**

Astronomy 102/182; Biology 121#; Chemistry 121/123# and 122/124; Computer Science 110 or Education 417; Psychology 101#; one approved statistics course#

**Concentration Requirements**

Geology 111/181; Mathematics 151/152, 161/162; Physics 230/280, 231/281, 232/282; 12 additional hours in Physics at the 300-400 level

**Professional Education Requirements**

Education 201, 321, 400, 418, 433, 443, 454 and Human Ecology 242

For graduation: 2.0 average in natural sciences and 2.0 average in College of Health, Education and Professional Studies courses.

For licensure: 2.5 cumulative average, 2.5 average at UTC, 2.5 average in education courses with no grade lower than C, 2.5 in content area courses with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

## Secondary Social Sciences (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course\* (3 hours)

**Natural Sciences:** Two approved natural science courses, at least one including a laboratory component. *Environmental Science 150 and 151 are required for the Geography concentration.* (7-8 hours)

**Humanities and Fine Arts:** History 203\* and one approved fine arts course (6 hours)

**Cultures and Civilizations:** History 103\*, 104\*, 105\* (9 hours)

**Behavioral and Social Sciences:** Economics 101\* and Political Science 101\* (6 hours)

The PDS I requirements for this major include Education 321, 400, 418, 433, 499, and Human Ecology 242.

All secondary social sciences majors are required to complete at least one of the following concentrations.

### 2986 - Secondary Social Sciences: Economics

#### Major and Related Courses

Economics 101#, 102; Geography 101, 103; History 103#, 104#, 105#, 203#, 204, 343; Political Science 101#; Computer Science 110 or Education 417; one approved statistics course#

#### Concentration Requirements

Anthropology 208; Economics 324, 325, 453; Political Science 102; 12 hours Economics electives selected with approval of advisor

#### Professional Education Requirements

Education 201, 321, 400, 418, 433, 443, 452 and Human Ecology 242

### 2978 - Secondary Social Sciences: Geography

#### Major and Related Courses

Economics 101#, 102; Geography 101, 103; History 103#, 104#, 105#, 203#, 204, 343; Political Science 101#; Computer Science 110 or Education 417; one approved statistics course#

#### Concentration Requirements

Environmental Science 150#, 151#; Geography 104; Geology 111/181;

One course from each of the following three areas:

- (a) Geography 206, 250
- (b) Geography 303, 305, 465, 466
- (c) Geography 407, 409, 415

12 hours Geography electives selected with approval of advisor, including a minimum of 3 hours at the 300-400 level.

#### Professional Education Requirements

Education 201, 321, 400, 418, 433, 443, 452 and Human Ecology 242

### 2979 - Secondary Social Sciences: History

#### Major and Related Courses

Economics 101#, 102; Geography 101, 103; History 103#, 104#, 105#, 203#, 204, 343; Political Science 101#; Computer Science 110 or Education 417; one approved statistics course#

#### Concentration Requirements

Anthropology 208; History 301

One course from each of the following four areas:

- (a) United States: History 331, 332, 335, 336, 337, 338, 341, 346
- (b) European: History 310, 311, 312, 313, 314, 315, 317, 318, 319, 323, 324, 327, 328
- (c) Non-western: History 364, 365, 368, 370, 371, 372
- (d) Disciplinary: History 411, 412, 415, 416, 419

Complete one of the following:

- (a) 6 hours economics electives
- (b) 6 hours geography electives
- (c) 9 hours political science electives

#### Professional Education Requirements

Education 201, 321, 400, 418, 433, 443, 452 and Human Ecology 242

### 2981 - Secondary Social Sciences: Political Science

#### Major and Related Courses

Economics 101#, 102; Geography 101, 103; History 103#, 104#, 105#, 203#, 204, 343; Political Science 101#; Computer Science 110 or Education 417; one approved statistics course#

#### Concentration Requirements

Anthropology 208; Political Science 102, 200, 316, and 15 hours political science electives selected with approval of advisor, including a minimum of 6 hours at the 300-400 level.

#### Professional Education Requirements

Education 201, 321, 400, 418, 433, 443, 452 and Human Ecology 242

For graduation: 2.0 average in social sciences and 2.0 average in College of Health, Education and Professional Studies courses.

For licensure: 2.5 cumulative average, 2.5 average at UTC, 2.5 average in education courses with no grade lower than C, 2.5 in content area courses with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\* Also satisfies requirement in the major.

# Also satisfies general education requirement.

### 2930 - Theatre Education K-12 (B.S.)

See *College of Arts and Sciences page 108.*

# 2941 - Exceptional Learning: K-12 (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 214\* (4 hours)

**Statistics:** One approved statistics course\* (3 hours)

**Natural Sciences:** One course from Astronomy 102/182, Chemistry 121/123, 125, General Science 111/181, Geology 111/181, Physics 103/183, 119, 230/280

And one course from Biology 121 or Environmental Science 150\* (8 hours)

**Humanities and Fine Arts:** Art 301\*, and one fine arts course from Music 111 or Theatre and Speech 111\* (9 hours)

**Cultures and Civilizations:** History 103\*, 104\*, 105\* (9 hours)

**Behavioral and Social Sciences:** Political Science 101\* and Psychology 101\* (6 hours)

The PDS I requirements for this major include Education 323, 400, 416, 436, 499; Human Ecology 241 or 242, and 445.

## Major and Related Courses

English 228 or 229, Exercise Science 302, Human Ecology 445, one course from Psychology 221 or 222 or Human Ecology 241 or 242; University Studies 311, 320, 340

Art 301 and one course from Music 111 or Theatre and Speech 111#

History 103, 104, and 105#

Political Science 101#, Psychology 101#

Mathematics 214# and one approved statistics course#

One course from Astronomy 102/182; Chemistry 121/123, 125; General Science 111/181, Geology 111/181, Physics 103/183, 119, 230/280#

One course from Biology 121 or Environmental Science 150#

## Professional Education Requirements

Education 201, 323, 325, 330, 311, 312, 313, 314, 317, 318, 319, 323, 325, 330, 336, 400

One course from Education 420 or 423

Education 425, 426, 430, 435, 445

For graduation: 2.0 average in College of Health, Education and Professional Studies courses.

For licensure: 2.5 cumulative, 2.5 at UTC, 2.5 in education courses with no grade lower than C, and 2.5 in content courses with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

## EDUCATION COURSES (EDUC)

### 101 Career and Life Planning (3)

Focus is on helping the individual make career and life plans. A series of techniques (role playing, psychodrama, sociodrama, value clarification, and decision making) will be utilized to facilitate each student's examining his or her interrelated value systems associated with education, work, leisure, and self-expression. Every semester.

### 105 Strategies for College Reading (3 hours institutional credit)

The course provides insights into the reading process, language expansion, content area language strategies, and improved study skills. Students will engage in a variety of activities involving reading, writing, speaking, and listening to enhance their ability to comprehend a variety of printed materials. Credit not applicable toward any degree.

### 199r Special Projects (1-4)

Individual projects and field components. On demand. Maximum credit 4 hours. *Prerequisite:* approval of department head.

### 200r Investigations of the School in Society (1)

Observations and simulations involving the school as a social institution and the role of the teacher in preparation for instruction. Field component required. Every semester.

### 201 Education in the United States (3)

Organization and historical development of education in the United States, philosophical concepts and their influences on contemporary education, current issues. Field component. Every semester

### 306 Designing Instruction and Evaluation in the Elementary Classroom (3)

Examination of the elements of evaluation, planning and management common to elementary school. Students will demonstrate competency in unit development, selected component teaching skills, and evaluation planning. *Prerequisite:* Education 201.

### 310 Elementary School Curriculum (3)

The curriculum for grades one through six and the impact of technological and social change on curriculum planning and school organization. On demand.

### 311 Teaching Social Studies in the Elementary School (1)

Designed to model effective methods and materials for teaching social studies in elementary grades. Emphasis on an integrated literature-based spiral curriculum. *Prerequisite:* Education 306. *Corequisite:* University Studies 320. *Formerly Education 411.*

### 312 Teaching Science in Elementary School (1)

Designed to develop a variety of teaching strategies for science instruction in the elementary grades. Emphasis placed on resources, inquiry skills, and developmentally appropriate activities. *Prerequisite:* Education 306. *Corequisite:* University Studies 311. *Formerly Education 412.*

### 313 Teaching Language Arts in the Elementary School (1)

Designed to develop an understanding of the basic concepts of language usage in the elementary classroom. Emphasizes the interrelatedness of language arts skills while demonstrating developmentally appropriate instructional strategies, activities, materials, and assessment techniques. *Prerequisites:* Education 306, 323; English 228, Human Ecology 240, 241. *Corequisite:* University Studies 340. *Formerly Education 413.*

### 314 Teaching Mathematics in the Elementary School (1)

Designed to provide students with effective methods for mathematics instruction in the elementary grades. Emphasis will be placed on assessment techniques and developmentally appropriate strategies and materials. *Prerequisite:* Education 306; *Corequisite:* Mathematics 214. *Formerly Education 414.*

### 317 Designing Instruction for the Inclusive Classroom (3)

Study of the elements of evaluation, planning and instruction common to an inclusive classroom with emphasis upon instructional design, unit/lesson development, teaching strategies, and adapting/differentiating instruction for diverse learners.

### 318 Methods in Special Education (3)

Examination of the approaches and methodology concerning remedial, corrective, and compensatory instruction used to support and teach students with mild to moderate disabilities. Emphasis is on mastery of K-12 general education curriculum as well as vocational skill development and transition planning. *Prerequisite:* Education 400 or equivalent.

### 319 Behavior Intervention Planning (3)

Theoretical orientations toward behavior management and strategies reflecting these orientations will be examined. This course will also address the development of behavior intervention plans needed when traditional classroom management is insufficient to address the behavioral, emotional and social problems of students. *Prerequisite:* Education 400.

### 320 Nature and Characteristics of Mild Disabilities (4)

An in-depth study of the psychological, physical, educational, medical, behavioral, and learning characteristics and needs of populations with mild disabilities. Field component required. *Prerequisite:* Education 400.

**321 Teaching of Reading in the Secondary and Middle Schools (3)**

Integrating reading skills and teaching strategies with the teaching of content area subjects. *Prerequisites: Education 201 and Human Ecology 242 or approval of the instructor. Required of all secondary and middle grades education majors.*

**323 Teaching Reading (3)**

Emphasis on reading as a developmental process and on useful strategies for getting meaning from print; survey of current methods, ways to integrate literature, teaching procedures, assessment techniques, and materials for the teaching of reading. Field component required. *Prerequisites: Education 306, English 228 or 229.*

**325 Nature and Characteristics of the Individual with Moderate and Severe and/or Multiple Disabilities (3)**

The in-depth study of the psychological, physical, educational, medical, behavioral, and learning characteristics and needs of students with moderate, severe, or multiple disabilities. Field component required. *Prerequisite: Education 400.*

**330 Academic and Behavioral Evaluation (3)**

A study of the basic principles and techniques of educational evaluation in special education used by the classroom/resource teacher. Fall semester. *Prerequisite: Education 400. Corequisite: Education 330 lab.*

**336 Management of an Inclusive Classroom (1)**

An examination of the use of effective proactive management techniques in the classroom.

**400 Survey of Exceptional Learners (3)**

An overview of exceptional children and youth and the philosophy of inclusion. Emphasis on individual differences among students with particular attention to students with special needs. The interrelated roles of general and special educators and related professionals in adapting instruction to meet special needs will be addressed.

**401 Introduction to Counseling (3)**

A basic course designed to provide an orientation to the philosophy, theories, and techniques of individual and group counseling to undergraduate students who are seeking foundational understandings for future courses in the functions of counseling in modern society. On demand.

**410 Strategies for Early Learners (3)**

Planning, implementing, and evaluating effective learning experiences for children from birth through kindergarten. Emphasis on integrated curriculum and developmentally appropriate practice. Field component required. *Prerequisites: Education 306, Human Ecology 240, 241.*

**415 Instructional Technology for the Adolescent Exceptional Student (3)**

An examination of the unique needs and particular issues which are specific to adolescents and adults with mild disabilities. The course emphasizes approaches and methodology concerning corrective and compensatory instruction.

**416 Instructional Technology for the Elementary Exceptional Student (3)**

An examination of the principles of clinical teaching and the individualizing of instruction for elementary students with mild disabilities. The course emphasizes instructional approaches and methodology concerning corrective and compensatory instruction.

**417 Technology and Learning (3)**

This survey course in technology will extend student knowledge of word processing, spreadsheets, databases, communications software, edutainment software, and the Internet through in-class, hands-on assignments. Projects will be individually geared to the needs of the audience. Every semester. *Prerequisites: Computer Science 110 or equivalent; Education 323 or 321.*

**418 Middle Grades Organization, Curriculum, and Instruction (3)**

A theoretical and practical orientation to the middle grades, holistically addressing the personal, social, and academic needs of young adolescents. Emphasizes organizational issues, integration of curriculum, and appropriate strategies for instruction and assessment. *Prerequisite: Education 201.*

**420 Emergent Literacy (3)**

Emphasis on the development of an instructional reading program that meets the needs of young children. Surveys classroom teaching models, assessment procedures, methods and materials. *Prerequisites: Education 306, 323, English 228, admission to Teacher Education Program.*

**422 Teaching Reading in the Intermediate Grades and Middle School (3)**

Teaching/learning strategies to deal with content and process of reading; emphasis on vocabulary development, comprehension strategies, basic study skills, reading in content areas. Summer semester. *Prerequisite: Education 323.*

**423 The Middle Grades: Assessment and Instruction (3)**

Classroom diagnostic and prescriptive teaching; linking middle grades reading, assessment, decision-making and instruction; in-depth study of selected assessment instruments, instructional strategies, materials, and management procedures. Field component required. *Prerequisites: Education 323 or equivalent, or approval of instructor; admission to Teacher Education Program. May not be used for graduate credit.*

**425 Procedures for Individuals with Physical and Multiple Disabilities (3)**

An examination of the unique needs and particular issues which are specific to children and adults who have physical challenges or multiple disabilities or are medically fragile. The course emphasizes how instructional approaches and methodology may be altered with special emphasis on physical and health management and adaptive technology. Fall semester. *Prerequisite: Education 325 or approval of instructor.*

**426 Instructional Procedures for Individuals with Moderate, Severe, or Multiple Disabilities (3)**

An examination of the unique needs and particular issues which are specific to children, adolescents, and adults with moderate and severe disabilities. The course emphasizes instructional approaches and methodology concerning functional academic curriculum, social skills development, career and vocational development, personal management, recreation/leisure, and general community living skills. Fall semester. *Prerequisite: Education 325 or approval of instructor.*

**430 Gifted and Talented Children and Adults (3)**

This course examines the social, emotional, and intellectual characteristics of the gifted/talented child and focuses on the appropriate teaching/learning requirements in resource and regular classrooms. Special attention will be given to program models, curriculum development, and teaching strategies. *Prerequisite: Education 330.*

**431 Teaching Strategies and Materials in Foreign Language (3)**

Curriculum and methods appropriate for teaching foreign language in grades PreK-12. Fall semester *Prerequisite: Education 201. May not be used for graduate credit.*

**433 Designing Instruction and Evaluation in the Secondary Classroom (3)**

Formulating and evaluating appropriate affective and cognitive objectives. Lesson planning and a wide range of teaching strategies will be examined. Each student will be required to demonstrate proficiency in a variety of component teaching skills via the microteaching laboratory and a self-developed teaching unit. *Prerequisite: admission to Teacher Education Program.*

**435 Assessment and IEP Development in Special Education (3)**

Capstone experience in assessment for eligibility and for planning of Individualized Educational Programs (IEPs) for exceptional learners. Includes the administration of formal and informal assessment instruments and use of the results to plan an IEP Heavy Field component is required.

**440 Student Teaching in Early Childhood Education - Pre K-4 (12)**

Enhanced student teaching in a Pre-K or kindergarten setting and in primary grades in Professional Development School II. Placements will ensure experiences in diverse schools. Every semester. *Prerequisites: All education courses, 90% of content courses, admission to Teacher Education Program, application for and admission to student teaching according to School of Educational Leadership guidelines. May not be used for graduate credit.*

**443 Student Teaching in Secondary Schools (12)**

Enhanced student teaching in both junior high or middle school and senior high school in Professional Development School II. Placements will ensure experiences in diverse schools. Every semester. *Prerequisites: All education courses, 90% of content courses, admission to Teacher Education Program, application for and admission to student teaching according to School of Educational Leadership guidelines. May not be used for graduate credit.*

**444r Student Teaching in Music, Visual Arts, Exercise Science, Health Promotion, and Theatre (12)**

Enhanced student teaching in both elementary and senior high school grades in Professional Development School II. Placements will ensure experiences in diverse schools. Every semester. *Prerequisites: All education courses, specific methods courses related to the discipline, 90% of content courses, admission to Teacher Education Program, application for and admission to student teaching according to School of Educational Leadership guidelines. Required of majors in Music Education, Art Education, and Theatre Education. May not be used for graduate credit.*

**445 Student Teaching in Exceptional Learning (12)**

Enhanced student teaching in two exceptional learning settings (one modified and one comprehensive) in Professional Development School II. Placements will ensure involvement with students in elementary and secondary grades in diverse schools. Every semester. *Prerequisites: All education courses, 90% of content courses, admission to Teacher Education Program, application for and admission to student teaching according to School of Educational Leadership guidelines. May not be used for graduate credit.*

**446 Student Teaching in Middle Grades Education (12)**

Enhanced student teaching in two middle grades settings and two content areas in Professional Development School II. Placements will ensure experiences in diverse schools. Every semester. *Prerequisites: All education courses, 90% of content courses, admission to Teacher Education Program, application for and admission to student teaching according to School of Educational Leadership guidelines. May not be used for graduate credit.*

**447 Student Teaching in Foreign Language Education (12)**

Enhanced student teaching in PreK-8 and 9-12 settings in Professional Development School II. Placements will ensure experiences in diverse schools. Every semester. *Prerequisites: All education courses, 90% of content courses, admission to Teacher Education Program, application for and admission to student teaching according to School of Educational Leadership guidelines. May not be used for graduate credit.*

**450 Teaching Strategies and Materials in Secondary and Middle Grades English (3)**

Curriculum and methods appropriate for secondary and middle grades English. Spring semester. *Prerequisite: Education 201. May not be used for graduate credit.*

**451 Teaching Strategies and Materials in Secondary and Middle Grades Mathematics (3)**

Curriculum and methods appropriate for secondary and middle grades mathematics. Fall semester. *Prerequisite: Education 201. May not be used for graduate credit.*

**452 Teaching Strategies and Materials in Secondary and Middle Grades Social Science (3)**

Curriculum and methods appropriate for secondary and middle grades social science. Fall semester. *Prerequisite: Education 201. May not be used for graduate credit.*

**453 Speech Disabilities and Language Development (3)**

Recognition and understanding of language development and speech disabilities. Basic diagnosis, remediation, and speech improvement activities incorporated. Fall semester.

**454 Teaching Strategies and Materials in Secondary and Middle Grades Natural Science (3)**

Curriculum and methods appropriate for secondary and middle grades natural science. Spring semester. *Prerequisite: Education 201. May not be used for graduate credit.*

**458 Readings and History: Teaching English as a Second Language (3)**

In-depth study of the history of English as a Second Language instruction. This course will investigate the development and characteristics of various programs used in teaching English to limited English proficient (LEP) students. Additional study will focus on articles written by major researchers in this field. The central purpose of this course is to provide experience in identifying, analyzing, and discussing significant current issues in the field of English as a Second Language.

**459 Strategies and Methods of Teaching English as a Second Language (3)**

Involves the study and application of second-language theories and cultural knowledge to ESL teaching methodology and curriculum design. In addition, explores various approaches which should benefit second-language learners and presents techniques of adjusting lessons to suit the needs of second-language learners and enhance their acquisition and use of English. Concentrates on assisting educators in the development of appropriate strategies for teaching speaking, writing, and grammar in ESL environments.

**480 Teaching Media (3)**

The selection, use, and evaluation of technological innovations in audiovisual media, emphasis on laboratory experiences in communication media.

**481 Educational Tests and Measurements (3)**

Measurement of human abilities and instructional outcomes, survey of elementary statistical concepts, construction of valid and reliable tests and evaluative instruments. On demand.

**482 Teaching Social Science Through Science Fiction (3)**

Explores uses of science fiction in teaching social issues and the future. Emphasis on creativity and integration with traditional content. On demand.

**483r Teaching Experience (3)**

For the temporarily certified employed teacher. Provides close supervision in planning, implementation, and evaluation. Tailored to fit specific school setting. On demand. *Prerequisites: Approval of College of Education and Applied Professional Studies dean. May not be used for graduate credit.*

**485 Orientation to Schools for Counselors (3)**

For school counselor candidates without teaching experience. The orientation experience will be structured to provide observation, participation in, and analysis of classroom instruction; will also provide the candidate with teaching experiences and feedback regarding those experiences. *May not be used for graduate credit.*

**490r Workshop and Seminar (2-4)**

Special problems and discussion of current topics in education. On demand. *Prerequisite: senior or graduate standing.*

**495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)**

On demand. See "Departmental Honors," page 39.

**497r Research (1-4)**

On demand. *Prerequisite: approval of department head.*

**498r Individual Studies (1-4)**

On demand. *Prerequisite: approval of department head.*

**499r Group Studies (1-4)**

On demand. *Prerequisite: approval of department head.*

# Exercise Science, Health, and Leisure Studies (EHLS)

Professor David Cundiff, *Head*

EHLS is a department within the College of Health, Education and Professional Studies committed to the development and maintenance of active, creative, health-promoting lifestyles and enhancement of skilled and aesthetic performances for both the professional and the consumer. The EHLS department encompasses three disciplines pertaining to the enhancement of the "Quality of Life": exercise science, health promotion, and leisure studies. Six (6) distinct academic career program tracks and two (2) minor courses of study are offered:

#### Career Program Tracks:

1. Fitness/Wellness Specialist
2. K-12 Health and Exercise Science Pedagogy
3. Leisure Studies
4. Sports Administration

#### Minor Courses of Study:

1. Athletics Coaching
2. Leisure Studies

In addition, the EHLS department offers a diversified service program of lifetime physical activities primarily for the undergraduate students. The department also provides the UTC faculty and staff a Work Place Wellness Program.

Furthermore, campus recreation through student development provides an exemplary intramural and club sports program as well as a variety of leisure services activities for the University community.

## 2945 - Fitness/Wellness Specialist (B.S.)

The concentration in Exercise Science: Fitness/Wellness Specialist is designed to provide the necessary knowledge and skills required to assess, educate, counsel and prescribe appropriate exercise programs for apparently healthy individuals and those individuals with controlled cardiac, metabolic or pulmonary disease. Graduates of this program are employed in work-site, commercial or hospital based-wellness/fitness programs. The curriculum includes laboratory and clinical classroom experiences which meet the recommended standards of the American College of Sports Medicine (ACSM) for health fitness programs. Students have the opportunity for two semesters of clinical/field experience in the UTC Work Place Wellness Program in addition to a full semester clinical internship in a worksite, commercial or hospital setting. Clinical affiliations for internship placement include but are not limited to: Erlanger Lifestyle Center, Memorial Center for Health, Unum Provident, Tennessee Valley Authority, East Ridge Hospital, Bradley Wellness Center, Baptist Center for Health and Wellness and St. Mary's Senior Center. Students successfully completing the concentration will be prepared for the ACSM Health Fitness Instructor Certification Exam. The program also meets or exceeds the entrance requirements for graduate study in Exercise Physiology.

#### Continuation Standards, Internship Admittance and Graduation Standards

Due to the nature of the practice of exercise science and the affect on the quality of life, the following standards will be applied for all individuals enrolled in the Fitness/Wellness Specialist concentration:

1. To continue to progress in the Fitness/Wellness concentration, students are required to:
  - a. Earn a minimum grade of C in all EHLS required classes and related courses;
  - b. Maintain a minimum overall GPA of 2.5;
  - c. Maintain current CPR and First Aid certification;
  - d. Maintain liability insurance for all clinical courses.
2. If, in the judgment of the faculty, there is reason to question the emotional and/or cognitive readiness of the student to successfully complete the clinical internships, the faculty have the right and the obligation to exclude the student from the pre-clinical or the clinical internships.
3. Students who do not successfully complete any portion of the pre-clinical course series (EHLS 310, 410) may repeat the failed course(s) one time.
4. Students will not be placed in the Clinical Internship (EHLS 479, 480) until all course work is completed satisfactorily.
5. Students will be required to purchase uniforms/lab attire for both pre-clinical and clinical internships. Internship placement is very competitive and based upon previous class work, clinical work, and internship site coordinator interviews. Students may need to be financially prepared for travel and living expenses outside the Chattanooga area.

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)  
**Mathematics:** One approved mathematics course (3 hours)  
**Statistics:** Exercise Science 401\* (3 hours)  
**Natural Sciences:** Biology 121\* and Chemistry 121/123\* (8 hours)  
**Humanities and Fine Arts:** One approved fine arts course (3 hours)  
**Cultures and Civilizations:** Option (a) Western Humanities I and II and Non-Western cultures and civilizations OR Option (b) World Civilization I, II, III (9 hours total)  
**Behavioral and Social Sciences:** Exercise Science 407 and one additional approved behavioral/social science course (6 hours)

#### Major and Related Courses

Exercise Science 021 and one Exercise Science activity course; Biology 121#; Chemistry 121/123#  
 Select 16 hours from Chemistry 122/124; Exercise Science 100 (EHLS 100 is required for students preparing for the UTC Graduate Athletic Training Concentrations), Human Ecology 135, 336; Physics 103/183; Nursing 226

#### Fitness/Wellness Specialist Core Course Requirements

Exercise Science 101, 201, 230, 310, 313, 314, 316, 317, 318, 332, 350, 401#, 407#, 410, 428, 440, 441, 453, 456, 457, 465, 479, 480

Minimum grade of C required in EHLS courses.  
 2.5 cumulative grade point average in EHLS required for graduation.  
 Minimum of 39 hours of 300 and 400 level courses.  
 Electives to complete 120 hours.  
 See page 35 for additional requirements.  
 \* Also satisfies requirement in the major.  
 # Also satisfies general education requirement.

## 2995 - Health and Exercise Science Pedagogy K-12 (B.S.)

This career program prepares students who desire teacher licensure and endorsement in physical education and health instruction (K-12). Since graduates of this program can be certified to coach, a partial segment of the concentration is devoted to content and laboratory courses designed to ensure necessary skills for both teaching and coaching. Graduates of this concentration may seek entry into graduate studies.

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)  
**Mathematics:** Mathematics 123\* (3 hours)  
**Statistics:** Exercise Science 401\* (3 hours)  
**Natural Sciences:** Two approved behavioral or social science courses, at least one including a laboratory component (7-8 hours)  
**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)  
**Cultures and Civilizations:** Option A: Western Humanities I and II and Non-Western cultures and civilizations (9 hours)  
**Behavioral and Social Sciences:** Exercise Science 407\* and one additional approved behavioral or social science course (6 hours)

**Major and Related Courses** (NOTE: In addition to the requirements listed below, students must be admitted to the Teacher Education Program before registering for advanced Education courses.)

Education 201, 433, 444; Exercise Science 302, 330, 401#, 407#, 431, 436; Mathematics 123#, Psychology 221

#### Health and Exercise Science Pedagogy Core Course Requirements

32 hours in Exercise Science, Health, and Leisure Studies including 100, 101,

201, 230, 303 or 452, 317, 318, 404, 451, 453, 456  
 15 hours Exercise Science professional/activities courses including:  
 Exercise Science 021 and two Exercise Science activity courses;  
 4 hours selected from Exercise Science 203, 204 or 205;  
 2 hours selected from Exercise Science 206 or 207;  
 6 hours selected from Exercise Science 208, 209 and 210

2.5 grade point average in EHLS courses and in all College of Health, Education and Professional Studies courses.

For licensure: 2.5 cumulative average, 2.5 average at UTC, 2.5 average in education courses with no grade lower than C, 2.5 in content area coursework with no grade lower than C.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\* Also satisfies requirement in the major.

# Also satisfies general education requirement.

#### Admission to the Teacher Education Program (TEP)

In addition to meeting criteria for admittance to the TEP, a student desiring certification in K-12 exercise science pedagogy teacher licensure will be expected to meet the following criteria:

1. Have a minimum grade point average of 2.5 in professional exercise science, health, and leisure studies course work;
2. Successfully complete an interview with his/her TEP department committee.

Students enrolled within any teacher licensure concentration are expected to maintain and demonstrate standards of ethics reasonably attributed to an educator who holds professional teacher certification.

Further, students who plan to teach outside the state of Tennessee are strongly urged to check the certification requirements of the state with the appropriate state department of education before the end of the sophomore year in order to plan an appropriate academic program.

## 2998 - Leisure Studies (B.S.)

The leisure studies program is a uniquely structured track for the student with career ambitions for being employed by or serving voluntarily with an agency, public or private, the functions of which include the provision of leisure studies and activities. The focus of the major courses in the leisure studies program is directed toward the practical applications of theories and strategies learned in professional leisure studies courses.

To reinforce this intent, a student specializing in leisure studies is expected to engage in several different types of field assignments and experiences.

#### Internship Admittance

The internship practicum in leisure studies are usually scheduled



during the senior year. Normally, a student may not gain official approval for enrollment in either internship EHLS 479 or 480 prior to completing at least 12 semester hours of course work within EHLS at UTC. Approval of program leader and EHLS department head is required.

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** Exercise Science 401\* (3 hours)

**Natural Sciences:** Environmental Science 150\* and one other approved natural science lab course (8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option (a) Western Humanities I and II and Non-Western cultures and civilizations OR Option (b) World Civilization I, II, III (9 hours)

**Behavioral and Social Sciences:** Economics 102\* and Exercise Science 407\* (6 hours)

### Major and Related Courses

One foundation course (3 hours) chosen from Accounting 201; Computer Science 110; Economics 101; Exercise Science 303, 340, 436; Human Ecology 135, Human Service 300, Political Science 233, Sociology 305, Theatre and Speech 109

Environmental Science 150#, one additional natural science lab course (4 hours)#, Exercise Science 401#, 407#

### Leisure Studies Core Course Requirements

63 hours of Exercise Science, Health, and Leisure Studies including:

31 hours leisure studies component: Exercise Science 201, 202, 220, 305, 325, 332, 470, 479, 480;

9 hours health component to include: Exercise Science 100, 154, 453;

23 hours exercise science component to include: Exercise Science 021 and one Exercise Science activity course; Exercise Science 405, 406, 456; and 12 hours of professional activity courses.

2.0 grade point average required in all EHLS courses.

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

## 2997 - Sports Administration (B.S.)

Sports Administration concentration contains foundation courses in exercise science and leisure studies as well as a business component which includes core courses selected from communications, management, marketing, economics, law, accounting, and computer science.

Sport-specific components and skills related to management and administration of sport are offered within this concentration. The concentration is designed to prepare students for careers in both the public and private sectors as well as graduate studies.

### Internship Admittance

The internship practicum in Sports Administration are usually scheduled during the senior year. Normally, a student may not

gain official approval for enrollment in either internship EHLS 479 or 480 prior to completing at least 80 percent of the required course of study within the major, and at least 12 semester hours of course work within EHLS at UTC. Approval of program leader and EHLS department head is required.

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121 and 122 (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** Exercise Science 401\* (3 hours)

**Natural Sciences:** Two approved natural science course, at least one including a laboratory component (7-8 hours)

**Humanities and Fine Arts:** Two approved courses, one from humanities and one from fine arts (6 hours)

**Cultures and Civilizations:** Option (a) Western Humanities I and II and Non-Western cultures and civilizations OR Option (b) World Civilization I, II, III (9 hours)

**Behavioral and Social Sciences:** Economics 101\* and 102\* (6 hours)

### Major and Related Courses

Exercise 021 and one Exercise Science activity course; Economics 101#, 102#; Exercise Science 401#

24 hours of foundation courses including: Accounting 200, 335 or 336; Communication 101 or 271; Finance 300, Management 103, 340; Marketing 313, 430

### Sports Administration Core Course Requirements

Exercise Science 201, 212, 213, 325, 332, 405, 406, 407, 453, 456, 470, 479, 480

2.0 average in Exercise Science courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to be selected by student and assigned academic adviser to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

## EHLS MINORS:

### 4521 - Athletics Coaching

This program is designed to address mental skills, strategies, and concepts of coaching from the allied fields of physiology, psychology, sociology, kinesiology, and management for individuals planning adjunct careers in coaching **with majors other than EHLS**.

21-22 hours including: 3-4 hours from Biology 191 or EHLS 201 or EHLS 317; EHLS 209, 340, 405, 407, 479; two courses from EHLS 203, 204, 205 or from 206, 207, 208 or one from 203, 204, 205 and one from 206, 207, 208

Minimum 2.0 average in the minor

### 4648 - Leisure Studies

Total of 24 hours including: 6 hours of health to include EHLS 100, 154; 6 hours in three courses from EHLS 202, 205, 206, 207, 208, 209, 210, 220;

12 hours in four courses from EHLS 201, 305, 325, 332, 470

Minimum 2.0 average in the minor.

## EXERCISE SCIENCE, HEALTH & LEISURE STUDIES COURSES (EHLS)

**Physical Recreational Activities**

Courses within the service program hold contemporary attractiveness as "lifetime" activities and should appeal to the educated adult for maintaining a healthful and wholesome lifestyle.

**021 Concepts and Application in Wellness/Physical Education (1)**

This course is designed to develop sound strategies for adopting and maintaining a physically active lifestyle. Emphasis is placed upon the concept of health related physical fitness (HRPF) and concepts related to the optimal functioning of the cardiopulmonary system, nutrition and body composition, and musculoskeletal system. Assessments will be used to provide the student with their current levels of HRPF with laboratory activities designed to demonstrate how students might improve and maintain optimal physical fitness. Every semester.

**027 Adapted Physical Education (1)**

Designed for those students with physiological, anatomical, and medical limitations that limit the amount of physical activity. Registration in or transfer to the class is dependent upon the recommendation of a physician or the major advisor of Exercise Science and Health.

**028 Beginning Hiking and Backpacking (1)**

This course is for beginners and will teach the philosophy of low impact hiking and camping. The basics of equipment, map, and campus use and trip planning will be covered. Field experience will be a part of the course.

**029 Beginning Bowling (1)**

This course presents terminology of the game, various grip and stances, the delivery approach, release, and follow through. Rules and scoring as well as tournament bowling are learned. Students with an average of 135 or higher are not eligible for this beginner course.

**030 Beginning Golf (1)**

This course stresses swing motion and the basic fundamentals. Techniques of the full swing and the short game are presented. Rules and etiquette are covered.

**031 Beginning Racquetball (1)**

This course is designed to emphasize the fundamental skills of racquetball. Students are taught how to execute shots from a variety of positions and how to use strategy to their advantage. Tournaments are played within the class to allow students practical application of the skills they are taught.

**037 Beginning Tennis (1)**

Beginning tennis skills are presented including forehand and backhand ground strokes, the volley and the serve. Rules, terminology, and basic game strategy will be taught. Through play, an increased level of fitness and skill will be gained to promote participation in tennis throughout life.

**038 Beginning Badminton (1)**

Beginning badminton is a badminton introductory activity class. This class is designed to teach the basic skills and strategies necessary for participating in recreational badminton.

**040 Beginning Conditioning and Weight Training (1)**

This class is designed to help students understand and apply the basic principles of training as they relate to their individual cardiovascular fitness, flexibility, muscular strength and muscular endurance. Emphasis will be on the introduction of physiological principles and instruction on techniques of weight training.

**041 Beginning Rowing (1)**

An introductory course that focuses on the fundamental skills of sweep rowing. This course will proceed at a pace that is appropriate for new rowers or those with limited experience, but becomes physically demanding as the semester progresses.

**042 Beginning Sculling (1)**

This course is designed to proceed at each student's skill level and ability. The focus is to learn how to row a one person rowing shell (i.e. scull). No prior rowing experience required but must know how to swim.

**043 Beginning Circuit Training (1)**

This class is designed to improve cardiovascular fitness, muscular strength and flexibility utilizing interval training.

**044 Beginning Water Aerobics (1)**

This course uses exercises conducted in water such as water walking, aerobic exercise to music and various resistance exercises to develop cardiovascular and musculoskeletal fitness.

**045 Beginning Aerobic Dance/Step (1)**

The course is designed to provide students with the opportunity to learn the principles and facts about aerobic fitness and to develop aerobic fitness through various beginning level aerobic dances and step aerobics. The aerobic dances are geared for the non-dancer and include a blend of jogging, lunges, arm and leg movements, and other large muscle movement.

**046 Beginning Canoeing (1)**

This course will teach the beginning student strokes, parts of equipment, and trip planning. Field experience will be a part of the course.

**047 Beginning Jogging/Running for Fitness (1)**

This course provides an opportunity to develop cardiovascular fitness and weight control. Selection of proper clothing and equipment, the physiological effects of a jogging/running program, care and prevention of injuries, and the mechanics of safe exercise are presented. Nutrition and weight control are covered.

**048 Beginning Ballet (1)**

This course introduces students to fundamental skills in the art of ballet. Movement combinations of allegro and adagio along with a self-choreographed dance are incorporated.

**049 Beginning SCUBA Diving (1)**

This course will teach students how to dive safely and be able to plan a scuba dive. Diving equipment, techniques, medical aspects, and diving physics will be covered.

**050 Beginning Gymnastics (1)**

Beginning gymnastics is designed to acquaint students with the concepts, values, and technical elements of gymnastics.

**051 Beginning Swimming (1)**

This course affords students the opportunity to work in the shallow and deep waters. Skills are developed as well as safety behaviors.

**052 Beginning Modern Dance (1)**

Modern Dance is symbolic movement which has been organized, integrated and objectified for individualized expressive purposes. It shares with other art forms and elements of creativity.

**053 Power Yoga (1)**

Designed to improve cardiovascular strength, muscular strength, muscular endurance and flexibility. Goals are accomplished through the balance of mind and body, along with focus of effort. Also designed to increase awareness and knowledge concerning yoga tradition, technique and practices used to promote health and fitness.

**054 Rock Climbing and Rappelling (1)**

This course will prepare you for basic rock-climbing practices in the outdoors.

**055 Walking for Fitness (1)**

This course provides an opportunity to develop cardiovascular fitness and weight control. Selection of proper clothing and equipment, the physiological effects of a walking program, care and prevention of injuries, and the mechanics of safe exercise are presented. Nutrition and weight control are covered.

**056 Tai Chi (1)**

Provides students with an introduction of Tai Chi exercise, including its methods, principles and applications. Practicing a short form of Yang style Tai Chi Quan, students will be able to use Tai Chi exercises as a way to improve mental and physical health, release stress, promote positive energy, and enrich quality of life.

**057 Swimming for Fitness (1)**

To gain an understanding of principles of training and benefits of aquatic exercise using swim strokes: freestyle, backstroke, sidestrokes. Timed swims are included.

**058 SCUBA Lifesaving and Accident Management (1)**

This course will teach scuba lifesaving techniques, CPR, first aid and emergency oxygen use as it pertains to the sport of scuba diving. The student will be able to recognize an emergency and respond in the proper manner.

**059 Lifeguarding/WSI (1)**

The purpose of the lifeguard training course is to teach lifeguards the skills and knowledge needed to prevent and respond to aquatic emergencies. The course content and activities prepare lifeguard candidates to recognize emergencies, respond quickly and effectively to emergencies, and prevent drowning and other incidents. The course also teaches other skills an individual needs to become a professional lifeguard. Not repeatable.

**060 Beginning Boxing Aerobics (1)**

Boxing Aerobics will be taught at the beginning level. The course is designed to provide each student with the opportunity to learn the principles and facts about aerobic fitness and to develop their aerobic fitness by learning and performing various beginning boxing aerobic routines.

**061 Self Defense (1)**

This course is designed to provide students with an opportunity to gain self-confidence while learning basic defense techniques. Students will be instructed in the beginning level of self-defense techniques of a variety of martial arts including karate, tae kwon do, judo and kung fu.

**062 Beginning Kayaking (1)**

This course will teach beginner-level kayaking skills and techniques, and introduce basic river safety concepts and practices.

**065 Intermediate Rowing (1)**

Intermediate rowing is a class designed for those students who desire to advance their knowledge and skill levels beyond that of students enrolled in beginning rowing. The class will serve to refine skills and conditioning levels achieved in previous sweep rowing classes. The class is significantly more physically challenging than at the beginning level. Prerequisite: Beginning rowing or instructor approval.

**066 Intermediate Water Aerobics (1)**

This course uses exercises conducted in water such as water walking, aerobic exercise to music and various resistance exercises to develop cardiovascular and musculoskeletal fitness.

**067 Intermediate Bowling (1)**

This course focuses on refinement of the experienced student's delivery mechanics including the approach, release, and follow through. Maximum quality practice time is emphasized. Alternate approaches and release are presented and several types of tournaments are conducted.

**068 Intermediate Golf (1)**

This course builds on and refines swing motion. Ball flight control is introduced with more in-depth swing analysis.

**069 Intermediate Tennis (1)**

Increased proficiency in four basic skills will be developed. New shots taught include the overhead, the drop, the lob, and spin serve. Strategy for singles and doubles play will be stressed. Emphasis is on increased pace and ball placement.

**070 Intermediate Conditioning and Weight Training (1)**

This course emphasizes the development of individualized muscular strength and endurance programs following instruction in the physiological principles and techniques of weight training.

**071 Intermediate Swimming (1)**

Five swimming strokes are improved for the student's skills. Diving and combination skills along with safety are enhanced.

**072 Intermediate Aerobic Dance/Step (1)**

The course is designed to provide each student with the opportunity to learn the principles and facts about aerobic fitness and to develop their aerobic fitness by learning and performing various intermediate level aerobic dances and step aerobics.

The aerobic dances are geared for the non-dancer and include a blend of jogging, lunges, arm and leg movements, and other large muscle movement patterns that are set to music.

**073 Intermediate Ballet (1)**

Increased barre and floor skills are introduced and developed. From the fundamental ballet components, skills and knowledge are gracefully strengthened.

**074 Intermediate Gymnastics (1)**

Intermediate gymnastics is designed to acquaint students with the concepts, values, and technical elements of gymnastics.

**080 Advanced Rowing (1)**

This class is designed for those students who desire to advance their knowledge and skills and conditioning levels achieved in previous sweep rowing classes. The class is significantly more physically challenging than the intermediate level. Prerequisite beginning rowing or instructor approval.

**083 Advanced Water Aerobics (1)**

This course uses exercise conducted in water such as water walking, aerobic exercise to music and various resistance exercises to develop cardiovascular and musculoskeletal fitness. Aspects of nutrition and weight control are covered.

**084 Advanced Aerobic Dance/Step (1)**

Aerobic exercise will be taught at the advanced level. The course is designed to provide each student with the opportunity to learn the principles and facts about aerobic fitness and to develop their aerobic fitness by learning and performing various advanced level aerobic dances and step aerobics. The aerobic dances are geared for the non-dancer and include a blend of jogging, lunges, arm and leg movements, and other large muscle movement patterns that are set to music. Step aerobics is a combination of arm movements set to stepping up and down on a step.

**088 Advanced SCUBA Diving (1)**

This course will take certified scuba divers and give them additional experiences in diving. The areas covered will be night diving, deep diving, boat diving, underwater navigation and other special areas of scuba diving.

**089 Advanced Conditioning and Weight Training (1)**

This course emphasizes the development of individual muscular strength and endurance programs following instruction in the physiological principles and techniques of weight training.

**100 Personal Health (3)**

Significant data and facts helpful in making intelligent decisions about personal health; crucial issues of personal, family, and social living. Every semester.

**101 Community First Aid and Safety (1)**

This course will teach how to identify injuries, provide first aid steps to keep injuries from becoming worse, and keep a victim alive until EMS arrives. Skills and techniques will be presented in a way that teaches both the rules and the important exceptions in first aid emergencies.

**154 Safety and First Aid (3)**

Nature and causes of accidents; safety measures for prevention and emergency treatment of common accidents; certification may be given in advanced first aid and CPR. Every semester.

**199r Special Projects (1-4)**

Individual or group projects. Every semester. Maximum credit 4 hours. Prerequisite: approval of EHLS department head.

**201 Introduction to Exercise Science, Health, Leisure Studies and Sport (3)**

Overview and summary of the fields of exercise science and sport activity based upon historical, social, psychological and physiological forces as they affect the individual and society; philosophy and principles of profession. Spring and fall semester.

**202 Camping and Outdoor Education (2)**

Study of the professional camping field and how it relates to the concept of outdoor education. Fall semester.

**203 Team Sports I – Football and Wrestling (2)**

History, basic skills, game and match strategy, coaching techniques of football and wrestling. Spring semester.

**204 Team Sports II – Baseball, Softball, and Volleyball (2)**

History; analytical approach to fundamental concepts, basic skills, game strategy, coaching techniques and psychology; investigation of contemporary systems of offensive and defensive theories. Fall semester.

**205 Team Sports III – Soccer and Basketball (2)**

History; analytical approach to fundamental concepts, basic skills, game strategy, coaching techniques and psychology; investigation of contemporary systems of offensive and defensive theories. Spring semester.

**206 Lifetime Sports I – Racquet Sports: Tennis, Badminton, Racquetball (2)**

History, basic skills, strategy, contemporary teaching and coaching techniques, skill application for recreational and competitive usage appropriate to each sport. Spring semester.

**207 Lifetime Sports II – Archery, Cycling, Golf (2)**

History, basic skills, strategy, contemporary teaching and coaching techniques, skill application for recreational and competitive usage appropriate to each sport. Fall semester.

**208 Stunts, Tumbling, Gymnastics, and Aquatics (2)**

Acquisition of fundamental skill development, contemporary teaching and coaching competencies with emphasis on application for elementary, intermediate, and advanced neuromuscular development. Fall semester.

**209 Physical Fitness: Weight Training/Conditioning, Aerobics, Track and Field (2)**

History, basic skills, strategy, psychology, training systems basic to coaching and teaching with emphasis on progressive program from beginning through advanced neuromuscular applications of weight training, conditioning, track and field. Fall semester.

**210 Movement Exploration and Rhythmic Sequences, Ballroom, Modern, Square Dance (2)**

Folk and fundamental skill acquisition; teaching progressions for artistic execution and expression; elementary forms of productions with emphasis on lesson planning for classroom presentation of movement exploration and rhythmic sequences: Aerobic, Folk and Square Dance. Spring semester.

**212 Field Experiences I in Sport Management (1)**

Practica (field experiences) performed in proximity to the campus involved in assistance to the production of sporting events. Lecture 10 hours. Laboratory 40 hours.

**213 Field Experiences II in Sport Management (1)**

Practica (field experiences) performed in proximity to the campus involved in assistance to the production of sporting events. Lecture 10 hours. Laboratory 40 hours.

**220 Leisure Studies Skills (2)**

Skills relating to various recreational activities and programs. Spring semester.

**224 Movement Education (2)**

Skill development and teaching procedures in movement education; fundamental and contemporary movement patterns. Every semester.

**227 Skill Concentration (2)**

Proficiencies in sports skills essential for the professional physical educator and recreation leader. On demand. Class hours to be arranged. *Prerequisite:* For EHLS majors only.

**230 Anatomical/Physiological Basis of Exercise Science, Health, Sports (4)**

Designed to increase knowledge in this applied science, this course offers an overview of the structure and function of the human body. The skeletal, muscu-

lar, nervous, respiratory, digestive and cardiovascular systems will be presented in detail. The urinary, integumentary, reproductive and endocrine systems will be presented, but in less detail.

**302 School Health Program (3)**

Investigation of the role of the teacher in planning and implementing a comprehensive school health program. Every semester. *Prerequisite:* Teaching candidate or approval of instructor.

**303 Community and Environmental Health (3)**

Interrelationship studies involving home, public health, non-official organizations/agencies for improved public health and health care delivery. Spring semester.

**305 Therapeutic Recreation (3)**

Development of programs for physically or mentally ill or convalescent patients: handicapped, retarded, elderly, and other special population groups.

**309 Cardiopulmonary Resuscitation (CPR) Instructor Training (1)**

An introduction to the methods, skills and procedures utilized in teaching Cardiopulmonary Resuscitation (CPR). *Prerequisites:* Current Basic Life Support (BLS) certification.

**310 Field/Clinical Experience I (2)**

An introduction to the methods, skills and procedures used in evaluating and prescribing exercise programs. Every semester. *Prerequisite:* Exercise Science 314, 316, 317 with a minimum grade of C, current First Aid and CPR certification liability insurance. Restricted to EHLS majors. *Corequisites:* 313, 428, 429.

**313 Exercise Leadership (3)**

An introduction to the skills, methods and procedures utilized in exercise and fitness program design. Emphasis will be placed on exercise leadership skills, instructional techniques and oral communication. Restricted to EHLS majors. *Prerequisites:* Exercise Science 316, 317 with a minimum grade of C. *Corequisite:* 310, 428, 429.

**314 Interpretation of ECG I (3)**

An introduction to electrocardiography and the interpretation of normal and abnormal cardiac rhythms. Fall semester. *Prerequisite:* Biology 208, 209 with a minimum grade of C.

**315 Interpretation of ECG II (3)**

Further study of electrocardiography interpretation including myocardial infarctions, stress testing and other diagnostic aids. Spring semester. *Prerequisite:* EHLS 314, 316 and 317 with a minimum grade of C. *Corequisite:* EHLS 428.

**316 Laboratory Methods and Procedures in Exercise Physiology (1)**

The study of physiological functions of the human body during exercise. Fall and spring semester. *Prerequisites:* Biology 191, 208/209, Chemistry 121/123 with a minimum grade of C. *Corequisite:* EHLS 317.

**317 Exercise Physiology (3)**

Intensive study of various physiologic processes related to exercise. Fall and spring semester. *Prerequisites:* Biology 191, 208, 209; Chemistry 121/123 with a minimum grade of C. *Corequisite:* EHLS 316 for Fitness/Wellness majors only.

**318 Kinesiology (3)**

Study of human motion; analysis of human motion as affected by gross anatomy and principles of motor learning. Spring semester. *Prerequisites:* Biology 191 with a minimum grade of C.

**320 Environmental Health (3)**

Major ecological problems relative to individuals, schools, and communities with emphasis upon the teaching-learning process. On demand.

**325 Leadership and Programming in Leisure Studies (3)**

Development of competencies needed for effective recreation leadership and recreation programming techniques for use in a variety of recreational settings.

Spring semester.

### 330 Physical Education in the Elementary School (3)

Practical aspects of planning, organizing, administering, and evaluating program activities, theories of play, principles of movement as they correspond to levels of growth and development of elementary children; teaching methods and materials in elementary physical education. Every semester.

### 332 Management in Exercise Science, Health, Leisure Studies and Sports (3)

Basic overview and survey of management concepts and guidelines associated with exercise science and leisure sports; decision making, leadership training, effective communication, planning, organizing, controlling, time management, budget, and finance. Fall semester. *Prerequisite: EHLS 201 or approval of instructor.*

### 335 Officiating Sports (1)

Rules, interpretations, fundamentals, techniques, and mechanics of officiating seasonal sports. On demand. *Prerequisite: EHLS major or approval of instructor.*

### 340 Care and Prevention of Athletic Injuries (3)

Analysis of common athletic injuries; emphasis on practical aspects within theoretical framework; laboratory experiences. Spring semester. *Prerequisite: Biology 191 or approval of instructor.*

### 350 Biomechanics of Human Movement, Exercise and Sport (3)

This course will examine the role of biomechanics in human movement, exercise and sport. *Prerequisites: EHLS 230 or equivalent and Physics 103/183.*

### 400 Current Topics and Problems in Exercise Science and Sports (3)

Investigation and exploration of selected topics and problems in exercise science and leisure sports significant for pedagogy, management, coaching in both schools and agencies providing sport and leisure services. Summer. *Prerequisites: senior level and approval of instructor or graduate standing.*

### 401 Measurement and Evaluation in Exercise Science and Leisure Studies (3)

Introduction to basic statistics, measurement, evaluation, tests of neuromuscular ability, muscular strength and endurance, balance, flexibility, motor ability, health related fitness; grading, constructing knowledge tests, measurement of human ability, and instructional outcomes. Fall semester. *Prerequisites: Equivalent of EHLS 201, 317, 332; Mathematics Placement Level 20 or Mathematics 106 with minimum grade of C; senior level or approval of instructor; or graduate standing.*

### 402 Philosophical Foundations of Exercise Science and Sports (3)

Identification and implication of prominent philosophical schools of thought as they impact professional decision making in exercise science and sports; emphasis upon development of a philosophical process, logical thinking, values clarification, and moral implications. On demand. Senior level or graduate standing.

### 404 Motor Learning in Exercise Science and Leisure Studies (3)

Conceptual understanding of the principles of performance of motor skills to include information processing and the functional properties of the motor system. On demand. *Prerequisite: EHLS 317 or approval of instructor.*

### 405 Management of Athletics and Leisure Studies (3)

Management principles, information retrieval and processing, sport law, public relations, personnel direction, faculty development, financial administration as they relate to sports, athletics, and leisure services. Spring semester. *Prerequisites: EHLS 304 or 332; approval of instructor; or graduate standing.*

### 406 Sport Law and Ethics (3)

This course presents a comprehensive overview of ethics and the law as they apply to sport. Fundamental, legal and ethical principles that most directly affect the actions and activities of sports professionals will be presented by selected case studies.

### 407 Sociology/Psychology of Exercise Science and Leisure Studies (3)

Emphasis upon exercise science and leisure sports as a socio-cultural psycho-cultural force; psychological and sociological concepts applied to human performance in exercise and sports. *Prerequisite: senior level or graduate standing.*

### 408 Seminar, Current Advances in Bio-Kinetics (3)

Current advances in kinesiology and physiologic principles of exercise science, athletic coaching, and sports. On demand. *Prerequisites: equivalent of EHLS 317 or*

*318; approval of instructor; or graduate standing.*

### 410 Field/Clinical Experience II (2)

Designed to provide the student with an opportunity to practice, apply and master additional skills presented in course work. Experiences will include evaluations, documentation and interpretation of results of exercise testing and program development. Every semester. *Prerequisites: EHLS 310, 313, 316, 317, 428, 457; Corequisite: EHLS 440 or approval of instructor.*

### 411 Metabolic Measurement/Exercise Stress Testing Laboratory (1)

An introduction to the use of instrumentation utilized in clinical exercise evaluation including the use of the Metabolic Measurement cart, pulmonary function testing (v max) and cardiopulmonary treadmill stress testing. The use of test results for clinical diagnosis, prognosis and exercise intervention/program will also be discussed. *Prerequisites: EHLS 310, 313, 428, 429 with a minimum grade of C. Corequisites: EHLS 410, 440, 441.*

### 428 Exercise Prescription in Health and Disease (3)

A comprehensive overview of the physical, physiological, and metabolic responses of the human body to exercise testing and training in both health and disease; the processes involved in prescribing safe and effective therapeutic exercise for healthy individuals as well as for patients with heart and lung disease, diabetes, and obesity will be discussed. Spring semester. *Prerequisites: EHLS 316, 317, Chemistry 168/170 or 122/124; Corequisites: EHLS 310, 313, 457.*

### 429 Exercise Prescription Lab (1)

Methods and procedures utilized in exercise testing, exercise prescription and education for healthy individuals and individuals with cardiac, pulmonary or metabolic disease. Spring semester. *Prerequisite: EHLS 316, 317, Chemistry 168 or 122/124, Nursing 226 with a minimum grade of C. Corequisite: EHLS 310, 313, 428.*

### 430 Assessment of Worksite Health and Human Performance (3)

This course is designed to present numerous methods for the assessment of worksite health and human performance in a variety of settings. *Prerequisites: EHLS 316, 317, 401, 428 and 457.*

### 431 Teaching Strategies and Materials in Exercise Science and Health (3)

Curricular and media development appropriate for the respective discipline. Fall semester. *Prerequisites: EHLS senior; teaching candidate.*

### 435 Promotion of Worksite Health and Human Performance (3)

This course is designed to present an integrated, step-by-step approach to planning and implementing worksite health and human performance in a variety of settings.

### 436 Exercise Science and Health Promotion for Developmentally Challenged (3)

Lecture, demonstration, and practical experiences in the study of exercise, health, and leisure sports and their implications for the developmentally challenged; emphasis on methods and techniques for teachers, coaches, and exercise leaders in meeting the legal, ethical, and moral obligations of the developmentally challenged. *Prerequisites: EHLS 302 or equivalent and junior level; or graduate standing.*

### 440 Advanced Exercise Physiology (3)

This course details the function of organ systems emphasizing mechanisms of control and regulation during exercise. Fall semester. *Prerequisites: EHLS 428 and 457; Corequisites: EHLS 410 and approval of instructor.*

### 441 Exercise and the Older Adult (3)

This course will examine the scientific evidence concerning the relationship between physical activity level and physical, mental, social, and psychological well being during aging. *Prerequisites: EHLS 316, 317 with minimum grades of C; Corequisites: EHLS 313, 428 and 457 with minimum grades of C.*

### 445 Cardiopulmonary Pathophysiology and Rehabilitation (3)

This course details the functions of the cardiovascular and respiratory systems emphasizing pathophysiology and treatment. Special reference will be made to exercise as a mode of therapy. Spring semester. *Prerequisite: Nursing 226, EHLS 315, 428, 429 with a minimum grade of C. Co-requisite: EHLS 315, 406, 411, 440,*

419.

**447 Teaching Health, Safety and Physical Education in Middle Grades (3)**

This course will give in-depth consideration of the individuals' responsibility to act in ways that enhance personal health; understand the concepts of adolescent physical development; obtain and apply health information; understand the knowledge, skills and attitudes that are goals of physical education; and use physical activities to promote the cognitive, affective and psychomotor domains.

**451 Family Life Studies (3)**

Extended study of problem issues related to family life and human sexuality; development of learning units for use in schools and community. Spring semester alternate years.

**452 Problems in Health: Aging and Death Education (3)**

Analysis of concepts and attitudes toward aging, death, bereavement, prevention and control of communicable and degenerative diseases. Spring semester. *Prerequisites: EHLS 100, 302, 303, or equivalent.*

**453 Substance Use, Misuse, and Abuse (3)**

Extended study of problems and issues related to use, misuse, and abuse of alcohol and other drugs; development of learning units for use in schools and community. Every semester.

**455 Methods and Strategies in Health Promotion (3)**

Investigation of current curricula and teaching strategies employed in health education. On demand. *Prerequisites: approval of instructor; senior or graduate standing.*

**456 Research Methods in Exercise Science and Health Promotion (3)**

Study of health problems and current professional literature; review of new approaches in techniques and methodology used in health research. Spring and fall semester. *Prerequisite: approval of instructor or EHLS senior or graduate standing.*

**457 Fitness Testing and Programming (3)**

Introduces students to the various concepts and procedures involved in fitness testing and programming. Students will learn how to screen individuals to determine the appropriateness and safety of test administration, and how to properly administer, interpret and develop exercise programs based on a variety of fitness tests and the individual's fitness goals. *Prerequisites: EHLS 314, 316, 317 with minimum grades of C; Corequisites: EHLS 310, 313, 428.*

**465 The Psychological Impact of Injury, Illness and Chronic Disease (3)**

Designed to explore how an adult copes with an acute injury, illness or chronic disease. Content of the course is a critical review of the psychological, vocational and social implications involved in such conditions as chronic pain, coronary artery disease, orthopedic trauma, cancer, rheumatoid arthritis, and a range of functional somatic disorders.

**470 Current Topics and Issues in Leisure Studies (3)**

Survey of problems and concerns facing recreation leadership, management, facilities development, environmental impact, and special population groups. Spring semester. *Prerequisite: above junior level.*

**479, 480 Internship in Exercise Science and Leisure Studies (6,6)**

Supervised internship in leadership and administrative positions; full time contact, minimum eight weeks, concurrent integrative seminars. Every semester. *Prerequisite: approval of program leader and EHLS department head.*

**490r Workshop and Seminar (2-4)**

Special problems; in-service education for specific groups; research in professional literature and evaluation measures to topics studied. On demand.

**495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)**

On demand. See "Departmental Honors" page 39.

**497r Research (1-4)**

Every semester. *Prerequisite: Approval of EHLS department head.*

**498r Individual Studies (1-4)**

Every semester. *Prerequisite: Approval of EHLS department head.*

**499r Group Studies (1-4)**

Every semester. *Prerequisite: Approval of EHLS department head.*

# Human Ecology

Associate Professor L. Cundiff, Head

The Department of Human Ecology offers:

- Interior Design
- Child and Family Studies
  - Licensure (PreK-4)
  - Non-licensure (services option)
- Food and Nutrition
  - Dietetics
  - Consumer Foods
- Interior Design

Human Ecology is an integrative field of study which deals with people in their environments and the reciprocal relationships that humans have with their environments. It encompasses professional study in the areas of child and family studies, Food and Nutrition (including dietetics and consumer foods options) and Interior Design.

## 2415 - Human Ecology: Child and Family Studies: Services (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 123\* (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Environmental Science 150\* and one additional approved natural science laboratory course (8 hours)

**Humanities and Fine Arts:** 6 hours selected from Music 111, Philosophy 201, or Theatre and Speech 115\*

**Cultures and Civilizations:** Western Humanities I and II and HECO 333\* (9 hours)

**Behavioral and Social Sciences:** Human Ecology 340\* and one course selected from Human Services 101 or Political Science 101\*

**Major and Related Courses**

Criminal Justice 201 or 295; English 228; Environmental Science 150#; Exercise Science 452, 453; Human Services 405, 425; Legal Assistant Studies 245; Mathematics 123#; Philosophy 425; Psychology 331 or Sociology 425; Psychology 340; Sociology 305;

Exercise 021 or one Exercise Science activity course;

Two courses (6 hours) selected from Music 111, Philosophy 201 or Theatre and Speech 115#

One course from Human Services 101 or Political Science 101#

**Human Ecology Core:** Human Ecology 322, 333#, 340#, 350

**Child and Family Services Core:** Human Ecology 135, 240, 241, 242, 245, 402, 405, 445, 448; Exercise Science 451; Business Management 315

2.0 average required in major and related courses.

Electives to complete 120 hours.

Minimum of 39 hours of 300 and 400 level courses.

See page 35 for additional requirements.

\* Also satisfies requirement in the major.

#Also satisfies general education requirement.

## 2416 - Human Ecology: Child and Family Studies: PreK-4 (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 214 \*(4 hours)

**Statistics:** One approved statistics course\* (3 hours)

**Natural Sciences:** Two approved natural sciences courses, at least one including a laboratory component (7-8 hours)\*

**Humanities and Fine Arts:** Two courses selected from Art 301, Music 111 or Theatre and Speech 115\* (6 hours)

**Cultures and Civilizations:** Western Humanities I and II and Anthropology 208\* (9 hours)

**Behavioral and Social Sciences:** Human Ecology 340\* and Political Science 101\* (6 hours)

The PDS I requirements for this major include Education 306, 323, 400; Human Ecology 241, 445

### Major and Related Courses

Anthropology 208#; English 228; Exercise Science 302, 330; Mathematics 214#; Political Science 101#; University Studies 311, 320, 330, 340

Two courses selected from Art 301, Music 111, or Theatre and Speech 115#;

One approved biological science course#;

One approved physical science course#;

One approved statistics course#

**Human Ecology Core:** Human Ecology 322, 333, 340#, 350

**Child and Family Studies PreK-4 Core:** Human Ecology 240, 241, 345, 445, 446; Education 201, 306, 311, 312, 313, 314, 323, 400, 410, 420, 440

For graduation: 2.0 average overall, 2.0 average in College of Health. Education and Professional Studies courses.

For licensure: 2.5 cumulative, 2.5 at UTC, 2.5 in education courses with no grade lower than C, 2.5 in content area coursework with no grade lower than C (see advisor/check sheet for specific courses).

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

## 2411 - Human Ecology: Interior Design (B.S.)

The Interior Design program reserves the right to keep one example of the work of each student in each studio course. Sophomore year portfolio review is required for continuation.

### Continuation Standards

Passage of the Sophomore Portfolio Review/Comprehensive Exam with an average grade of 75% or better is required for enrollment in the junior and senior interior design studios. In addition, a grade of C (70%) or better in an interior design course is required for that course to be considered as successfully completed in the Interior Design Program, and for that course to count as a prerequisite for subsequent courses in the interior design course sequence.

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 123\* (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Chemistry 119\* and one additional approved natural science course (7-8)

**Humanities and Fine Arts:** Art 111\* and Theatre and Speech 115\*

**Cultures and Civilizations:** Option (a) Western Humanities I and II: (6 Hours) and Anthropology 208\* (3 hours)

**Behavioral and Social Sciences:** Human Ecology 340\* and Human Services 101 or Geography 104\* (6 hours)

### Major and Related Courses

Anthropology 208#, Art 111#, Chemistry 119#, English 277, Exercise Science 021 and one Exercise Science activity course, Mathematics 123#, Theatre and Speech 115#

One course selected from Geography 104 or Human Services 101#

**Human Ecology Core:** Human Ecology 322, 333, 340#, 350

**Interior Design Core:** 63 hours from Human Ecology including 120, 121, 220, 223, 224, 225, 226, 320, 321, 323, 324, 326, 327, 329, 417, 419, 420, 422, 423, 424

2.0 average in all Human Ecology courses.

Minimum of 39 hours of 300 and 400 level courses.

Electives to complete 120 hours.

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

## 2412 - Human Ecology: Food and Nutrition (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121,122 (6 hours)

**Mathematics:** Mathematics 131\* (3 hours)

**Statistics:** One approved statistics course (3 hours)

**Natural Sciences:** Chemistry 121/123; Dietetics Concentration take Chemistry 122/124; Consumer Foods Concentration take Biology 121\* (8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Western Humanities I and II and Human Ecology 333\* (9 hours)

**Behavioral and Social Sciences:** Psychology 101\* and one course from Economics 101\* or 102\* (6 hours)

### Major and Related Courses

**Human Ecology Core:** 322, 333#, 340, 350

**Food and Nutrition Core:** Human Ecology 135, 236, 237, 330, 332, 334, 336, 402, 430, 431, 432; Mathematics 131#; Psychology 101#, one course selected from Economics 101 or 102#

Completion of one of the following options:

#### Option A: Dietetics\*

Accounting 200 or 201; Biology 208, 209, 210; Chemistry 121/123#, 122/124#, 351/353, 352/354, 466; Human Ecology 335, 434, 436, 437

#### Option B: Consumer Foods

Biology 121#, 210; Chemistry 121/123#; Human Ecology 405; Political Science 101; Sociology 151, one course selected from English 277 or 278 or Management 310;

15 hours from Accounting 200, 201, 335, 336; Finance 300; Management 103, 315, 332, 340; Marketing 313, 430; Communication 101

5 hours Human Ecology consumer foods electives

2.0 average in all Human Ecology courses.  
Minimum of 39 hours of 300 and 400 level courses.  
Electives to complete 120 earned hours.  
See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

\*The Didactic Program in Dietetics at the University of Tennessee at Chattanooga is currently granted accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 120 South Riverside Plaza, Chicago, IL, 60606-6995, 312/5400.

## HUMAN ECOLOGY MINOR

**4590 - Food and Nutrition:** 18 hours including Human Ecology 135, 236, 335, 434 and 6 hours selected from Human Ecology 237, 330, 332, 333, 334, 336, 436. Minimum of 8 hours at the 300 400 level. Minimum 2.0 average in the minor

## HUMAN ECOLOGY COURSES (HECO)

### 120 Design Fundamentals (3)

A study of design as related to the individual and his or her environment; review of the basic theories regarding principles and elements of design with emphasis on using design to solve utilitarian as well as aesthetic problems. Fall semester. Studio 5 hours.

### 121 Architectural Drafting (3)

A basic architectural drafting course, including the study of symbols and drafting techniques necessary to the understanding and drawing of architectural plans. Spring semester. Studio 5 hours. *Prerequisite: Human Ecology 120.*

### 135 Nutrition (3)

An introduction to nutrition science, emphasizing physiological and biochemical interactions between foods and the human body. Explores the relationship between foods, nutrition, and disease promotion/prevention. Applies nutrition to individual food behaviors. *Prerequisite: UTC Math Placement Level 20 or Math 106 or equivalent.*

### 199r Special Projects (1-4)

Individual or group projects. On demand. Maximum credit 4 hours.

### 205 Family Relations: Preparation for Marriage (3)

A functional approach to understanding cultural and social influences on dating, love, mate selection, sex, and early marriage in America. Every semester.

### 220 Interior Space Design (3)

The study of space planning utilizing the application of techniques for analyzing floor plans through the use of symbols and terminology common to the practice of interior design. Fall semester. Studio 5 hours. *Prerequisite: Human Ecology 121*

### 222 Color Systems (3)

Experimentation in color systems and their use in interior design; analysis of psychological impact of color systems on people; correlation of color scheme to total room design; development of skills for various media and tools used in color planning. Fall semester. Studio 5 hours. *Prerequisite: Human Ecology 120.*

### 223 Fundamentals of Visual Presentation (3)

An introduction to basic skills, materials, and techniques employed in the visual and verbal presentation of interior design concepts. Spring semester. Studio 5 hours. *Prerequisites: Human Ecology 220 and 222.*

### 224 Sophomore Juried Portfolio Review (0)

The successful completion of a comprehensive exam and the preparation and delivery for professional review of an assigned design problem demonstrating competency in the use of skills learned in previous Human Ecology courses. *Prerequisites: Human Ecology 120, 121, 220, 222 and 223 with grades of C or better.*

### 225 Materials of Interior Design (3)

A study of components basic to the art of interior design: wall treatments, window treatments, floor coverings, fabric selections, furniture selections. Spring semester. *Prerequisites: Human Ecology 220 and 222.*

### 226 Interior Textiles (3)

A study of the fundamental properties found in textile fibers, yarns, weaves and finishes, and the application of these properties to interior finishes. Spring semester. *Prerequisite: Human Ecology 222.*

### 236 Food Science (4)

Basic scientific concepts related to the selection, care, and preparation of foods; emphasis on chemical and physical properties and their interaction with environmental variables. Fall semester. Lecture 3 hours, lab 2 hours. *Prerequisite: Human Ecology 135.*

### 237 Food and Nutrition: Markets, Trends and Behaviors (3)

Nature of the American food market, marketing procedures, resource management, regulations in the food industry; socioeconomic, cultural, and psychological influences in food nutrition behaviors; marketing nutrition education. Spring semester alternate years. *Prerequisite: Human Ecology 135.*

### 240 Child Development and Observation I (3)

Study of development of children from prenatal period to age three. Includes ecological aspects and effects on development. Instruction in observation skills and directed participation in observational activities. Every semester. Field component.

### 241 Child Development and Observation II (3)

Study of growth and development of children from age three to adolescence. Includes ecological aspects and effects on development. Instruction in observation skills and directed participation in observational activities. Field component. Every semester. *Prerequisite: Human Ecology 240.*

### 242 Adolescent Development (3)

Consideration of adolescent developmental, cognitive, social theories and application for teaching. Understanding of peer culture/subcultures and effects of breakdown of social support systems. Field component. Every semester.

### 245 Introduction to Family Life Programs (3)

An exploration of community and school-based programs that focus on empowering and enhancing individuals and families through education. Includes observational experience.

### 313 Merchandising Applications (3)

Examines the philosophy, concepts, characteristics, and techniques underlying the planning and control of sales and inventories in manufacturing and retailing; the principles of effective merchandising through mathematical problems. Spring semester. *Prerequisites: Accounting 201, Human Ecology 210, Mathematics 210.*

### 316 Fashion Advertising and Promotion (3)

Principles of sales promotion and analysis of the activities utilized by retail and wholesale firms to influence the sale of merchandise; includes advertising, display, special events, publicity, fashion shows, and personal selling. Fall semester. *Prerequisite: Human Ecology 210.*

### 317 Visual Merchandising (3)

A comprehensive study of the aspects of displaying merchandise from planning to execution at the retail level; focus on both interior and exterior visual presentation including signage, windows, colors, lighting, mannequins, fixtures, floor planning, and promotions. Upon demand. *Prerequisites: Human Ecology 120, 220, 223.*

### 320 Historic Furnishings (3)

The study of design characteristics of historical furniture including the dominant, socio-economic influences leading to the development of each style – Egyptian to Victorian. Fall semester. *Prerequisite: Human Ecology 120 or approval of instructor.*

### 321 Contemporary Furnishings (3)

A study of characteristics of furnishings and interiors of the late nineteenth and



twentieth centuries; including furniture designers, interior designers, design movements, and effects of the Industrial Revolution and the consequent use of machinery in the production of furniture. Spring semester. *Prerequisite: Human Ecology 120 or approval of instructor.*

### 322 History of American Domestic Architecture (3)

A comprehensive survey, period feature-by-feature, of the styles that have had the greatest impact on the development of American architecture. Every semester.

### 323 Introduction to Computer-Aided Design (3)

Introduction of basic AutoCAD LT commands to implement drafting exercises and small projects. Spring semester. Studio 5 hours. *Prerequisite: Human Ecology 327.*

### 324 Interior Lighting Design (3)

The study of illumination principles, design criteria, and systems applied to architectural interiors in public and private space. Fall semester. *Prerequisite: Chemistry 119; Corequisite: Human Ecology 327.*

### 325 Images of Western Living (3)

Perspectives of the near environment of Western people using a study of styles of architecture, furniture, and clothing of selected historical periods; exploration of the combination of economic, geographic, social, and cultural patterns which influenced their development; focus on evaluating styles and understanding their current impact. Every semester.

### 326 Residential Interiors (3)

Advanced study of space planning criteria and the selection of furnishings, equipment, materials, and finishes for the residential market; design considerations for special populations (e.g., disabled, aged) explored. Spring semester. Studio 5 hours. *Prerequisite: Human Ecology 324 and 327.*

### 327 Fundamentals of Kitchen and Bath Planning (3)

A study of the aesthetic and technical elements of kitchen and bath design. Fall semester. Studio 5 hours. *Prerequisites: Human Ecology 224; Corequisite: Human Ecology 324.*

### 329 Codes and Specifications (3)

The study of interior subsystems and their application to architectural spaces; emphasis on specification guidelines including product performance; building codes; fire, safety, and health regulations. Spring semester. *Prerequisite: Human Ecology 224.*

### 330 Experimental Food Science (4)

Chemical and physical factors affecting food preparation, including experimental methods and individual experimentation in selected food problems. Spring semester alternate years. Lecture 2 hours, lab 2 hours. *Prerequisites: Chemistry 168/170 or 351/353; Human Ecology 236; Mathematics 210 or other approved statistics course.*

### 332 Life Cycle Nutrition (3)

Application of the principles of nutrition in dietary management for meeting the physiological, psychological, and social needs of individuals and groups throughout the life cycle; focus on the postulated nutrient requirements in various environments and economic levels. Every semester. *Prerequisite: Human Ecology 135 or knowledge of basic principles of nutrition.*

### 333 Food and Culture (3)

An overview of the history of food: sociocultural, geographic, religious and ethnic influences of food and nutrition behavior. A combination of independent assignments, group projects and field trips will provide insight into food practices and cultural influences.

### 334 Community Nutrition (3)

Fundamentals of nutritional care delivery in community programs; laws and standards affecting dietary practice. Spring semester alternate years.

### 335 Advanced Nutrition (3)

Food nutrients in physiological and biochemical processes of the body; emphasis on their relationship to health and human development. Fall semester. *Prerequisites: Chemistry 168/170 or 351/353 or equivalent; Human Ecology 135.*

### 336 Sports Nutrition (3)

The study of principles of nutrition and human energy systems as applied to fitness and sport. Every semester. *Prerequisites: Human Ecology 135, Biology 208, 209.*

### 340 Family Relations: Family Interaction (3)

Family relationships and alliances at each stage of the family life cycle; the family as a small group: role, status, and power interactions of spouses, siblings, and generations; crises and adjustments. Every semester.

### 345 Management of Early Childhood Environments (3)

A study of the organization and structure of the early childhood classroom environment, communication and interaction with young children, and rationale for guiding behavior. Field component. *Prerequisites: Education 306, Human Ecology 240, 241.*

### 350 Communication for Human Ecology Professionals (3)

Responsibilities, ethics, and techniques for the professional in presenting information and materials to the public through radio, newspaper, television, and live performances; general areas of public relations. Every semester. *Prerequisite: Limited to Human Ecology majors/minors only.*

### 402 Seminar (2)

Professional procedures in consumer and family related professions including trends, developments, challenges, opportunities, ethics, and business procedures. Every semester. *Prerequisite: approval of department head.*

### 405 Human Ecology Practicum (3-6)

Directed field experience in a selected professional area of human ecology, including a weekly seminar and faculty supervision within an approved institution, agency, or business establishment; written application to department head required three months prior to the semester in which the student plans to register for the course. Every semester. *Prerequisites: senior status in human ecology and approval of department head. Maximum credit: 6 hours.*

### 412 Historic Textiles (3)

The development of textiles from ancient times to the twentieth century with emphasis on fiber, color application, fabric construction, and design motifs particular to select countries or cultures. On demand. *Prerequisite: Human Ecology 226.*

### 416 Merchandising Management (3)

This course presents the general characteristics of merchandising management and explores the attributes necessary for available positions in textiles, apparel, and retail merchandising management today. First half of fall semester only. *Prerequisite: all required merchandising courses. Corequisites: Human Ecology 413, 417, 419. Must be taken the last or next to last semester prior to graduation.*

### 417 Internship Concepts and Preparation (3)

This course fully prepares students for their required field internship including assigning each student to his or her intern placement. Spring semester prior to internship.

### 419r Interior Design Field Internship (6)

Directed field experience that is required of all interior design students. Provides a full-time work assignment that gives students a better understanding of the real interior design function. *Prerequisite: Human Ecology 417. Must be taken the last semester prior to graduation. A maximum of 12 hours may be applied to the degree.*

### 420 Management Procedures for Interior Design (3)

General characteristics of management terminology and procedures in the interior design field with a major emphasis placed on the ability to systematize and control the flow of operations, money, materials, and commitments. Spring semester. *Must be taken the semester prior to internship.*

### 422 Contract Interiors (3)

Development of creative ideas in commercial design projects which integrate interior design elements to achieve predetermined goals. Spring semester. Studio 5 hours. *Prerequisite: Human Ecology 326 and 329.*

**423 Advanced Contract Interiors (3)**

Contract interior space planning factors as they relate to office landscape systems design and barrier-free requirements. Summer semester. Studio 5 hours. *Prerequisite: Human Ecology and 422.*

**424 Computer-Aided Design Project Management (3)**

Project application management of interactive computer graphic systems. Fall semester. Studio 6 hours. *Prerequisite: Human Ecology 323.*

**430 Food Systems Administration I (3)**

Management, organization, and administration of food service in institutions. Fall semester alternate years. *Prerequisite: Human Ecology 135.*

**431 Quantity Food Service (3)**

Principles, methods, and techniques in planning, purchasing, production, and service of food in quantity; selection and use of equipment; quality standards; laboratory experiences in approved local institutions. Spring semester alternate years. *Prerequisite: Human Ecology 430 or 432.*

**432 Food Systems Administration II (3)**

Food systems administration with an emphasis on production, manpower, facility, and financial planning in food service and hospitality systems. Fall semester alternate years. *Prerequisites: Human Ecology 335.*

**434 Perspectives in Clinical Nutrition I (4)**

The study of diet as it relates to prevention and treatment of disease. Experiences in nutritional assessment techniques. Dietary calculations for obesity, diabetes mellitus, cardiovascular disease, and gastrointestinal disorders. Includes practicum/placement. Fall semester alternate years. *Prerequisites: Human Ecology 135, Biology 208, 209 or equivalent; Pre- or corequisite: Human Ecology 335.*

**435 Diet Therapy (4)**

Application of diet designed for the prevention and treatment of diseases which are influenced by food intake; laboratory experiences in diet calculations, nutritional assessment techniques, and patient charting skills. Spring semester alternate years. Lecture 3 hours, lab 2 hours. *Prerequisite(s): Biology 208, 209 or Human Ecology 335.*

**436 Perspectives in Clinical Nutrition II (4)**

The study of diet and disease; application of appropriate nutritional therapies for endocrine disorders, hypermetabolic conditions, immune system disorders, pulmonary diseases, cancer, liver and renal disease. Includes practicum/placement. Spring semester alternate years. *Prerequisites: Human Ecology 434.*

**445 Families: Home, School, Community Partnerships (3)**

A study of the family system as it assumes the child rearing function and parents the developing child throughout the stages of the family life cycle. Special attention is given throughout the study of parent-professional, parent-community relationships and skills and approaches for building successful partnerships with families. Includes the study of families with "special" circumstances, and how professionals can be supportive and facilitative. Every semester. Field component.

**446 Strategies for Assessing Young Children (3)**

Designed to provide an overview of assessment rationale and experiences in administering a variety of assessments from informal to formal. Field component. *Prerequisites: Education 323, Human Ecology 345.*

**448 Family Resource Management (3)**

A study of the managerial functions involved in individual and family systems. The course will include budgeting and financial planning, housing, insurance, credit, savings, decision making, time and stress management, retirement, environmental resources, and taxes.

**495r Departmental Honors (1-3 hours per term, 4 hours for two terms)**

On demand. See "Departmental Honors," page 39.

**497r Research (1-4)**

On demand.

**498r Individual Studies (1-4)**

On demand.

**499r Group Studies (1-4)**

On demand.

# School of Nursing

Associate Professor Kay Lindgren, Acting Director

**Accreditation**

The School of Nursing is approved by the Tennessee Board of Nursing and is accredited by the Accreditation Council and Commission on Collegiate Nursing Education.

**Pre-nursing**

Students must meet the same admission requirements as all other applicants to the University. Academic advising for all students declaring Pre-nursing or nursing majors must be done by a member of the nursing faculty.

Pre-nursing students are advised in group sessions. The times and dates of advisement sessions are found on the School of Nursing Web site [www.utc.edu/Academic/Nursing](http://www.utc.edu/Academic/Nursing).

Enrollment in the nursing major is limited. Admission to the University does not ensure acceptance into the nursing major.

**Eligibility Requirements for Participation in the Nursing Program**

Nursing is a practice discipline, with cognitive, sensory, affective, and psychomotor performance requirements. The faculty of the School of Nursing has identified the skills and professional behaviors that are essential to pursue a course of study to be eligible to write the National Council Licensure Examination-R.N. and practice as a professional nurse. In order to progress in the nursing curriculum, a student must possess a functional level of capability to perform the duties required of a professional nurse. The essential eligibility requirements for participation in the nursing program are identified as Core Performance Standards.

These standards are adapted from the Southern Council on Collegiate Education for Nursing and are congruent with the skills presented in the document entitled *Essentials of Baccalaureate Education for Professional Nursing* revised (1998), a publication of the American Association of Colleges of Nursing. If these standards cannot be achieved by the student, either unassisted or with dependable use of assistive devices, the faculty reserves the right to exclude the student from clinical areas. Potential students are provided copies of the Core Performance Standards upon request. A copy of the *Essentials of Baccalaureate Education for Professional Nursing Practice* (1998) is available for review in the school's Office of the Director.

The nursing program includes clinical components, practica and internships. Prior to and during contact with clients in clinical assignments, practicum experiences and internships, students are expected to evidence good judgement, ethical conduct and appropriate emotional functioning. These are evaluated by the School of Nursing faculty using professional nursing standards.

These standards are listed with the Director of School of

Nursing and Dean of College of Health and Human Services. A student dismissed from the School of Nursing for not meeting these standards has the right to appeal the decision. Information about the process of appeal is available in the UTC Student Handbook and the Undergraduate Catalog.

### Admission to the Nursing Major (for non-RNs)

Students desiring admission or readmission to the nursing major must submit a completed written application on forms available from the School of Nursing. Candidates for the nursing major (Nursing 251-254) must make formal application by April 15 for the fall class and by September 30 for the spring class. Students transferring from other nursing programs should submit the written application by April 15 for the fall class and September 30 for the January class. Enrollment is limited and the number of qualified applicants exceeds the number of students who can be admitted. The following are considered when evaluating candidates for admission:

1. Completion of credit hours required for sophomore classification including the following prerequisite courses with no grade lower than a C and a minimum grade point average of 2.5 on a 4.0 point scale at UTC.  
Chemistry 121/123  
3-4 hours General Education Natural Science (Biology 210)  
Biology 191, 208, 209, 210  
English 121, 122  
Psychology 101  
Nursing 226
2. Physical and emotional characteristics appropriate for nursing practice.
3. Science competency. The nursing major includes a strong biophysical science component; thus the first grade earned in a required science course will be used to compute the student's GPA.
4. Cumulative GPA.
5. Science GPA (calculated on required sciences only)
6. ACT or equivalent
7. Number of prerequisite courses completed at UTC.

Candidates will receive written notification of their admission status. Individuals who are not accepted for a given class, and who desire to be considered for the next class must reapply.

The faculty in the School of Nursing reserve the right to make exceptions to the admission requirements. Written requests for exceptions to admission requirements, supported by evidence of extenuating circumstances, will be considered by the academic affairs committee after an official application for admission to the School of Nursing has been filed.

Acceptance of transfer and substitute credits in nursing to meet requirements of the curriculum will be determined by the school faculty. A student who transfers into the nursing program at UTC will be required to repeat any nursing or other required courses which are not considered comparable to the UTC curriculum or in which the grade earned is lower than a C. Transfer students must meet the same standards as other students in the program.

### Expenses and Transportation

In addition to regular education costs, nursing students must meet the following expenses: uniforms, standardized test fees, yearly liability and health insurance, initial physical examinations, immunizations, CPR certification and others as required. Some nursing courses may require miscellaneous fees. Since clinical experiences in nursing are obtained in a variety of health care settings in local and remote areas, students are individually responsible for transportation to these sites.

### Insurance and Health Requirements

Students must meet specific physical examination and immunization requirements as specified by state law and by the rules and regulations set forth by the various clinical agencies. All students must have health insurance and must participate in the school's liability insurance program. Specific information concerning these requirements will be provided to the students at appropriate times by the nursing faculty.

### Licensure

Upon successful completion of the baccalaureate program in nursing, and upon certification by the director that the student possesses the requirements, the student is eligible to write the National Council Licensure Examination-RN. Persons previously convicted of a felony may not be permitted to write the NCLEX exam.

### Continuation Standards (for non-RNs)

In view of the nature of nursing and the fact that maintenance and quality of human life may be adversely affected by individuals providing nursing care, the following standards have been adopted and are applied by the nursing faculty.

1. To progress in nursing, students are required to: a) make a minimum grade of C in all nursing and required courses (exclusive of electives); b) maintain a cumulative grade point average of 2.0; c) maintain active liability and health insurance policies for clinical courses; and d) maintain current CPR certification, and meet School of Nursing health requirements.
2. Students who fail any portion of a clinical sequence may repeat the failed course(s) one time. Additional failure in any portion of a clinical course sequence will result in dismissal from the nursing program.
3. Students who fail non-clinical courses may be denied progression in the program.
4. Students who do not complete a course, or who make a grade below "C", and who are eligible to repeat a course, are permitted to register for that course on a space-available basis.
5. If in the judgment of the professor there is reason to question the emotional or physical condition of a student or the safety or quality of nursing care provided, the professor has the right and obligation to exclude the student from the clinical area. The incident or reason underlying such an action shall be brought to the attention of the course faculty on or before

the next clinical day. The student will receive written notification of the recommendation of the course faculty. Should the decision be unacceptable to the student, he/she may appeal to the director, and thereafter in accordance with University policy.

6. Exceptions to the above policies may be made at the discretion of the academic affairs committee or the director of the School of Nursing.

### Gateway Program for Registered Nurses

The Gateway Program is a flexible curriculum which enables registered nurses to obtain baccalaureate degrees in nursing while maintaining their roles in careers and families. Planned with the mid-career RN in mind, the Gateway Program is individualized and allows maximum college credit for previous educational experiences. The prospective RN student should seek advisement from the RN Coordinator and transcript evaluation from the Records Office for this program of study.

### Admission to the RN to BSN Concentration

1. Graduation from an accredited diploma or associate degree nursing program.
2. Show eligibility to return to the last educational institution attended and meet UTC's continuation standards.
3. Show a C (2.00) average on all postsecondary courses.
4. Admission to UTC.
5. Provide proof of current registered nurse licensure.

### Continuation Standards (RN to BSN Concentration)

1. To progress in nursing, students are required to:
  - a. Make a minimum grade of C in all nursing and required courses (exclusive of electives)
  - b. Maintain a cumulative grade point average of 2.0
2. Students who fail non-clinical courses may be denied progression in the program.
3. If in the judgment of the professor there is reason to question the emotional or physical condition of a student or the safety or quality of nursing care provided, the professor has the right and obligation to exclude the student from the clinical area. The incident or reason underlying such an action shall be brought to the attention of the course faculty on or before the next clinical day. The student will receive written notification of the recommendation of the course faculty. Should the decision be unacceptable to the students, he/she may appeal to the director and thereafter in accordance with university policy.
4. Students must provide proof of CPR certification and updated immunizations according to the infection control policy, active health insurance policy, and obtain liability insurance from UTC prior to taking clinical courses.
5. A student who transfers into the nursing program at UTC will be required to repeat required courses which are not comparable to the UTC curriculum or in which the grade earned is lower than a C.
6. Exceptions to the above policies may be made at the discretion of the academic affairs committee of the School of Nursing or the director of the School of Nursing.

## 2793 - Nursing (B.S.N.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours; approved related course below will apply)

**Natural Sciences:** Biology 210\* and Chemistry 121/123\* (8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option a: Western Humanities I and II (6 hours) and Non-Western cultures and civilizations (3 hours) or Option b: World Civilization I, II, III (9 hours)

**Behavioral and Social Sciences:** Psychology 101\* and one additional behavioral/social science course (6 hours)

### Major and Related Courses

2.5 average required for admission to the nursing major with no grade lower than C in any required prerequisite course.

Biology 191, 208, 209, 210#; Chemistry 121/123#, one approved general education statistics course#; Psychology 101#

One approved intensive writing course, English 279 recommended

Nursing 226, 251, 252, 253, 254, 300, 326, 327, 328, 329, 351, 352, 353, 354, 427, 428, 429, 451, 452, 453, 454

Minimum grade of C in all nursing and required courses (exclusive of electives).

Minimum of 39 hours at the 300 and 400 level.

Electives to complete 120 hours.

See page 35 for additional information.

## 2790 - Nursing: RN to B.S.N.

**General Education** for both Nursing concentrations (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** Two approved courses in rhetoric and composition (6 hours)

**Mathematics:** One approved mathematics course (3 hours)

**Statistics:** One approved statistics course (3 hours; approved related course below will apply)

**Natural Sciences:** Biology 210\* and Chemistry 121/123\* (8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option a: Western Humanities I and II (6 hours) and Non-Western cultures and civilizations (3 hours) or Option b: World Civilization I, II, III (9 hours)

**Behavioral and Social Sciences:** Psychology 101\* and one additional behavioral/social science course (6 hours)

### Major and Related Courses

2.5 average required for admission to the nursing major with no grade lower than C in any required prerequisite course.

Biology 191, 208, 209, 210#; Chemistry 121/123#, one approved general education statistics course#; Psychology 101#

Nursing 226, 252, 251, 253, 254, 326, 327, 328, 329, 351, 352, 353, 354, 427, 428, 429, 451, 452, 453, 454

*Note: Nursing 453 is not required if student is an actively working RN.*

1. Nursing courses not equivalent to UTC's 100-200 level nursing courses will be accepted as elective credit. (Diploma nursing graduates must take Regents/Excelsior College fundamentals exam to meet Nursing 253 and 254 requirements.)
2. Nursing 226, 251 and/or 252 do not have to be completed prior to beginning 300-400 level nursing courses.
3. Prerequisite courses for 300-400 level nursing courses include: English 121,

- 122, 279 (or other approved intensive writing course); Mathematics 106 or equivalent; Regents/Excelsior College exams to validate Adult Nursing (Nursing 427, 428, 429); Maternal/Child Nursing (Nursing 352, 353, 354); Psychiatric Nursing (Nursing 328, 329).
4. Other prerequisites include Nursing 326 (Nursing 251 is prerequisite; Statistics is pre- or corequisite); Nursing 451 (Nursing 251 is prerequisite; Nursing 326 is pre- or corequisite).
  5. Nursing 300 is not required of RNs.
  6. Nursing 453 is not required of actively employed RNs.

Minimum grade of C in all nursing and required courses (exclusive of electives).

Minimum of 39 hours at the 300 and 400 level.

Electives to complete 120 hours.

See page 35 for additional information.

## NURSING COURSES (NURS)

### 100 Introduction to Nursing (3)

Theoretical introduction to concepts used in nursing practice. Open to non-majors. On demand.

### 199r Special Projects (1-4)

Individual or group projects. On demand. Maximum credit 4 hours.

### 222 Women's Health Issues (3)

A review of current literature and discussion of issues affecting contemporary women's health. The course will introduce the biological, psychological, social, economic, and cultural factors which affect the health of women in Western society. Students will be challenged to examine their attitudes on controversial issues such as birth control, childbirth alternatives, abortion, women's self image, and aspects of aging. On demand. *Prerequisite: English 122 or its equivalent. Open to non-majors. May be registered as WSTU 222. Credit not allowed in both Nursing 222 and Women's Studies 222.*

### 226 Pathophysiology (3)

Concepts of pathophysiologic events throughout the life span; includes pathogenesis, morphologic changes, clinical manifestations, and implications for treatment. Every semester. *Prerequisites: Biology 191, 208, 209 or approval of instructor. Open to non-majors (formerly Nursing 316).*

### 251 Nursing Science I (3)

An introduction to nursing science as it relates to theory, practice, and research. Every semester. *Prerequisite: 226 and admission to major. Corequisites: 252, 253, and 254 or approval of instructor.*

### 252 Assessment (3)

Provides concepts and skills necessary to conduct physical assessments on clients of all ages. Every semester. *Prerequisite: 226 and admission to major. Corequisites: 251, 253, 254, or approval of instructor.*

### 253 Functional Health Patterns (3)

Concepts of nursing care for adults, with emphasis on health promotion. A holistic approach emphasized. *Prerequisite: 226 and admission to major. Corequisites: 251, 252, 254, or approval of instructor.*

### 254 Clinical Practicum I: Health Promotion (4)

Nursing care of clients with emphasis on health promotion. Every semester. Laboratory: 12 clock hours per week. *Prerequisite: 226 and admission to major. Corequisites: 251, 252, 253 or approval of instructor.*

### 300 Pharmacology (3)

An overview of pharmacology including drug classifications, action, use, and nursing implications and drug interactions. Legislation pertinent to drug control included. Open to non-majors.

### 322 The Physical Process of Aging (3)

A study of normal and pathological physical changes that are linked with the aging process. This course will include the implications of the physiological changes as well as strategies designed to ameliorate or limit health problems that may develop as individuals age. On demand. Open to non-majors.

### 326 Nursing Science II: Research (3)

An introduction to methods in nursing research emphasizing both nursing theory as a basis for research and the application of research in practice. Every semester. *Prerequisite: Completion of 200-level nursing courses; statistics.*

### 327 Community Health Nursing (3)

Concepts of primary nursing care in community health. Every semester. *Prerequisite: Completion of 200-level nursing courses. Corequisites: 329 or approval of instructor.*

### 328 Psychiatric/Mental Health Nursing (3)

Concepts of nursing care for clients with mental health needs. Every semester. *Prerequisite: Completion of 200-level nursing courses. Corequisites: 329 or approval of instructor (formerly Nursing 314).*

### 329r Nursing Practicum II: Community and Mental Health (2-3, Maximum 5)

Nursing care of clients in the community and mental health systems. Every semester. Laboratory: 15 clock hours per week. *Prerequisite: Completion of 200-level nursing courses. Corequisites: 327, 328 or approval of instructor. Graded Satisfactory/No Credit.*

### 351 Professional Nursing I (3)

Introduction to concepts and issues as they relate to the development of the individual as a professional nurse. Every semester. *Prerequisites Completion of 200-level nursing courses and 326, 327, 328 and 329. Corequisites: 352, 353, 354 or approval of instructor.*

### 352 Nursing of Families I (3)

Concepts of nursing care for pregnant women and childbearing families. Every semester. *Prerequisites Completion of 200-level nursing courses and 326, 327, 328 and 329. Corequisites: 351, 353, 354, or approval of instructor (formerly Nursing 418).*

### 353 Nursing of Families II (3)

Concepts of nursing care for children and child rearing families. Every semester. *Prerequisites Completion of 200-level nursing courses and 326, 327, 328 and 329. Corequisites: 351, 352 354, or approval of instructor (formerly Nursing 419).*

### 354 Nursing Practicum III: The Family (4)

Nursing care of childbearing and child rearing families in various clinical settings. Every semester. *Prerequisites Completion of 200-level nursing courses and 326 327, 328 and 329. Corequisites: 351, 352, 353 or approval of instructor (formerly Nursing 420). Graded Satisfactory/No Credit.*

### 427 Adult Nursing I (3)

Concepts of nursing care of adults with alterations in functional health patterns in response to complex health problems (including cancer, immune, nutritional, and neurological disorders). Every semester. *Prerequisite: Successful completion of 200 level nursing courses. Corequisites: 429 or approval of instructor.*

### 428 Adult Nursing II (3)

Concepts of nursing care of adults with alterations in functional health patterns in response to complex health problems (including respiratory, cardiac, renal and orthopedic dysfunction). Every semester. *Prerequisite: Successful completion of 200 level nursing courses. Corequisites: 429 or approval of instructor.*

### 429 Nursing Practicum IV: The Adult (2, Maximum 4)

Nursing care of adults with alterations in functional health patterns in response to complex health patterns. Every semester. Laboratory: 12 clock hours per week. *Prerequisite: Successful completion of 200 level nursing courses. Corequisites: 427, 428 or approval of instructor. Graded Satisfactory/No Credit.*

### 434 Perioperative Nursing (4)

Concepts and skills necessary for the nurse to practice in a primary role in specialized Perioperative settings. On demand. Lecture 2 hours, clinical lab 6 clock hours. *Prerequisites: Completion of 300 level nursing courses or licensure as a registered nurse or approval of instructor.*

### 435 Rehabilitation Nursing (4)

Concepts and principles of rehabilitation nursing including client and family care in rehabilitation and community settings. On demand. Lecture 2 hours, clinical 6 clock hours. *Prerequisites: Completion of all required 300 level courses, licensure as a*

registered nurse or approval of instructor.

#### 440 Preparation for NCLEX-RN (3)

A review of the nursing process with integration of key concepts in the care of the adult client, care of the childbearing family, care of the child, and care of the client with psychosocial disorders. On demand. Open only to seniors in their final semester or approval of instructor.

#### 451 Nursing Science III (3)

Synthesis of theory, practice, and research for entry into professional nursing practice. Every semester. *Prerequisite:* Completion of 200 and 300 level nursing courses and 427, 428, 429. *Pre or Corequisites:* 452, 453, and 454 or approval of instructor. *Must be taken in final semester of nursing course work.*

#### 452 Professional Nursing II (3)

Concepts and issues related to the role of the professional nurse in complex health care environments. Every semester. *Prerequisite:* Completion of 200 and 300 level nursing courses and 427, 428, 429. *Corequisites:* 451, 453, and 454 or approval of instructor.

#### 453r Nursing Practicum VI (3)

Application of theory, practice and research in a variety of clinical settings; preparation for entry into professional nursing practice. Every semester. Laboratory: 9 clock hours per week. *Prerequisite:* Completion of 200 and 300 level nursing courses and 426, 427, 428, 429. *Corequisites:* 451, 452, and 453 or approval of instructor. *Graded Satisfactory/No Credit.*

#### 454r Clinical Practicum V (1-3)

Nursing care of the community as a client. Every semester. Laboratory: 9 clock hours per week. *Prerequisite:* Completion of 200 and 300 level nursing courses and 427, 428, 429. *Flexibility to break course into 1, 2, or 3 hours for a total of 3 hours in course.* *Corequisites:* 451, 452, and 453 or approval of instructor. *Graded Satisfactory/No Credit*

#### 455r Advanced Childbirth/Women's Health Education (1-3)

The course enhances and expands the practice of nurses who work or will work with childbearing families and nonpregnant women. Advanced knowledge and skills are presented which enable students to assess and diagnose common gynecological and pregnancy-related problems. On demand. *Prerequisites:* Nursing 352, 353, 354 or RN license and physical assessment.

#### 470 Oncology Nursing (3)

In-depth study of the status of cancer as a major health problem. Treatment modalities used for intervention and interruption of the neoplastic process are studied, emphasis on utilizing the nursing process in treating oncology patients. On demand.

#### 471 Nursing Case Management: Theory, Process and Outcome (3)

Web-based course on theory, process, outcome and role function essential to the practice of nursing case management are explored. *Prerequisite:* approval of instructor.

#### 472 Health Care Information Management (3)

This course provides students with the theoretical foundation of healthcare information management, examines information technology, Internet tools, and use of software applications in professional practice. *Prerequisite:* Approved computer literacy course or core computer skills integrated into the major, or approval of instructor.

#### 495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

#### 497r Research (1-4)

On demand.

#### 498r Individual Studies (1-4)

On demand.

#### 499r Group Studies (1-4)

On demand.

## Physical Therapy

Associate Professor Catherine R. Smith, Acting Head

### Doctor of Physical Therapy

The Doctor of Physical Therapy program at UTC is designed to prepare graduates to meet entry-level practice expectations of the physical therapy profession. The curriculum addresses current approaches to the evaluation and management of movement system disorders while simultaneously preparing the graduate to assume a role in prevention, wellness, and health promotion. Classroom and clinic-based instruction provide students with the knowledge and skills needed to practice competently in today's dynamic healthcare environment. By integrating current theory and research into all foundational science and applied clinical science courses, the DPT program of study prepares students to develop and implement evidence-based intervention plans leading to outcomes that enhance the movement competencies of clients with disorders of the musculoskeletal, neurological, cardiovascular or integumentary systems.

The program's 3 + 3 structure requires three years of prerequisite course work followed by three years of full time enrollment in the professional program. Students who are accepted into the professional program must be enrolled on a full-time basis for each of the eight semesters of the physical therapy curriculum. The curriculum combines classroom and laboratory training with independent study and clinical experiences in multiple healthcare settings. A variety of instructional methods are employed to enable students to develop the essential manual and clinical skills. The course work is arranged according to a prescribed sequence and schedule that all students must follow.

The DPT program is fully accredited by the Commission on Accreditation in Physical Therapy Education.

### Pre-Physical Therapy

Pre-physical therapy students admitted to the program with undergraduate standing must meet all undergraduate admission requirements of the University. The prerequisites for the professional program for undergraduate students include the general education requirements of the University, which are outlined elsewhere in this catalog. Students who have already earned a bachelor's degree at the time of application to the program are not required to complete the general education requirements of the University unless they choose to earn a second bachelor's degree. Students interested in pursuing physical therapy should seek advisement from the physical therapy faculty by calling the program office to schedule an

appointment.

### Admission to the Professional Physical Therapy Program

Application procedure and admission to the University does not assure acceptance into the physical therapy program. Enrollment is limited, and the number of qualified applicants may exceed the number of students who can be admitted.

Selection by the admissions committee is based upon a number of factors including overall GPA (calculated for all academic courses attempted up to the point of application to the program), GPA for science courses alone (including biology, chemistry, physics and psychology courses), references and interviews.

Applicants with the best combination of these factors will be selected for the class. Students may apply who have a minimum cumulative GPA and science GPA of 3.0 on a 4.0 grading scale and meet the minimum prerequisite requirements. Entrance into the program is contingent upon the completion of all prerequisites with a minimum grade of C.

Application forms are available on-line at the physical therapy web site: [www.utc.edu/physicaltherapy](http://www.utc.edu/physicaltherapy). The completed application packet must be submitted by 5:00 p.m. on the day of the deadline posted on the physical therapy website.

Applicants are responsible for assuring the completion of the packet prior to the deadline. Following initial review of the application materials, invited interviews are conducted, and the decision of the admissions committee is mailed to each applicant. Students are asked to verify their acceptance to the program in writing. Classes begin in late August.

Undergraduate students who are admitted into the program will be required to apply to and be admitted into the Graduate School at the completion of the first year of the physical therapy program. Upon the successful completion of the first year of the professional program, undergraduate students will be granted a bachelor's degree in Rehabilitation Science. Applicants who have previously earned a bachelor's degree from a regionally-accredited institution must apply and be admitted to the Graduate School prior to admission to the DPT program.

If a student is admitted to the DPT program, but declines to accept a position in the class to which he or she has been admitted, the student must reapply to be considered for admission to the program at a later date.

### Prerequisite Courses

Undergraduates must complete ninety-six semester hours of course work prior to initiating study within the professional program. Prerequisite eligibility requirements to apply are as follows:

#### Block One: Fall Application Deadline

*Note: Consult [www.utc.edu/physicaltherapy](http://www.utc.edu/physicaltherapy) for specific deadline dates.*

Undergraduate applicants must complete a minimum of 60 semester hours of the prerequisites by the end of the preceding summer semester to include two English composition courses, two biology courses, one chemistry or physics course, one

mathematics course, and one psychology course.

Applicants having already earned a degree from a regionally-accredited institution and planning to apply through the Graduate School must complete the following prerequisites by the end of the preceding summer semester: two biology courses, one chemistry or physics course, one mathematics course, and one psychology course.

### Block Two: Spring Application Deadline

*Note: Consult [www.utc.edu/physicaltherapy](http://www.utc.edu/physicaltherapy) for specific deadline dates.*

Undergraduate applicants must complete a minimum of 75 semester hours of the prerequisites by the end of the fall semester to include two English composition courses, two biology courses, one chemistry course, one physics course, one mathematics course, one psychology course, and an additional two courses in chemistry, physics or psychology.

Applicants having already earned a degree from a regionally accredited institution and planning to apply through the Graduate School must complete the following courses by the end of the fall semester: two biology prerequisite courses, one chemistry course, one physics course, one mathematics course, one psychology course, and an additional two courses in chemistry, physics or psychology.

A total of 19 semester hours of electives is included in the prerequisites. Students are encouraged to select elective course work that could be applicable to an alternative bachelor's degree in the event that admission to the program is denied.

Applicants who have already earned a bachelor's degree are required to complete only major-related prerequisite courses. Transfer students should enroll in courses with course descriptions equivalent to the UTC course prerequisites.

## 2530 - Rehabilitation Science (B.S.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 131 or higher level approved Mathematics course\* (3 hours)

**Statistics:** One approved statistics course\* (3 hours)

**Natural Sciences:** Biology 121\* and Chemistry 121/123\* (8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option (a) Western Humanities I and II and Non-Western cultures and civilizations OR Option (b) World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Psychology 101\* and Psychology 241\* (6 hours)

#### Major and Related Courses

Biology 121#, 191, 208, 209  
 Chemistry 121/123# and 122/124 or 168/170  
 Classics 300 or Physical Therapy 302  
 Exercise Science 154, 317  
 Mathematics 131 or a higher level approved Mathematics course  
 Philosophy 425# or Physical Therapy 305  
 Physics 103/183 and 104/184  
 Psychology 101# and 241#  
 Physical Therapy 401, 405, 410, 411, 414, 415, 416, 420, 421, 435, 440, 450  
 One approved intensive writing course

Minimum grade of C in all physical therapy required courses (exclusive of electives)

Minimum 2.0 average required in all major courses

Minimum of 39 hours of 300 and 400 level courses

Electives to complete 120 hours

See page 35 for additional requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

#### Expenses and Transportation

Each student admitted to the program is required to purchase professional liability insurance annually. Additional expenses include laboratory/clinical attire and dissection instruments. Classes are required during the summer semester of both the first and second years of the program. Physical therapy clinical experiences scheduled throughout the academic year require students to provide their own transportation to the clinical sites. Full-time clinical experiences are scheduled during the summer semesters of both the first and second years. Students must be financially prepared for travel to and living expenses in other cities throughout the United States during clinical education courses.

#### Continuation and Graduation Standards

Standards of the physical therapy profession require that graduates be prepared to practice safely and competently with the physical therapy scope of practice. To ensure safe and competent performance by students enrolled in the program, the following continuation standards must be met for students to remain enrolled in the program:

- To progress in physical therapy, students are required to:
  - maintain a 2.0 grade point average for all courses taken at the undergraduate level; students must maintain a 3.0 for all courses taken at the graduate level.
  - maintain an active liability insurance policy for clinical courses;
  - maintain current CPR certification.
- If in the judgment of the faculty there is reason to question the emotional or physical condition of a student or the safety or quality of physical therapy care provided, the faculty has the right and obligation to exclude the student from the clinical area.
- Students who fail courses may be denied progression in the

program. Students may repeat failed courses only at the discretion of the retention and progression committee or the department head of the Physical Therapy Program.

## 9500 - Physical Therapy (D.P.T.)

**General Education** (see pages 33-36 for list of approved courses)

**Rhetoric and Composition:** English 121, 122 (6 hours)

**Mathematics:** Mathematics 131 or higher level approved Mathematics course\* (3 hours)

**Statistics:** One approved statistics course\* (3 hours)

**Natural Sciences:** Biology 121\* and Chemistry 121/123\* (8 hours)

**Humanities and Fine Arts:** Two approved humanities and fine arts courses, one from fine arts and one from either (6 hours)

**Cultures and Civilizations:** Option (a) Western Humanities I and II and Non-Western cultures and civilizations OR Option (b) World Civilization I, II, III (9 hours total)

**Behavioral and Social Sciences:** Psychology 101\* and Psychology 241\* (6 hours)

#### Major and Related Courses

Biology 121#, 191, 208, 209  
 Chemistry 121/123# and 122/124 or 168/170  
 Classics 300 or Physical Therapy 302  
 Exercise Science 154, 317  
 Mathematics 131 or a higher level approved Mathematics course  
 Philosophy 425# or Physical Therapy 305  
 Physics 103/183 and 104/184  
 Psychology 101# and 241#  
 One approved intensive writing course  
 Physical Therapy 401, 405, 410, 411, 414, 415 or 515, 416, 420, 421, 435, 440, 450, 511, 512, 514, 518, 520, 522, 524, 525, 526, 528, 532, 534, 535, 536, 538, 540, 542, 544, 545, 548, 550r, 553, 555, 597r.

Minimum grade of C in all physical therapy required courses (exclusive of electives).

Minimum of 39 hours of 300 and 400 level courses.

2.0 average for courses taken at the undergraduate level, 3.0 average overall, 3.0 UTC average, and 3.0 average in physical therapy courses taken at the graduate level.

Total hours: A minimum of 120 hours for bachelor's degree at UTC.

See page 35 for additional undergraduate requirements.

\*Also satisfies requirement in the major.

#Also satisfies general education requirement.

#### PHYSICAL THERAPY COURSES (PHYT)

Enrollment in courses offered by the program of Physical Therapy is allowed by special approval of the faculty and the director.

##### 302 Medical Technology for Health Professionals (2)

This course is designed for students interested in the medical and paramedical fields. Utilizing web-assisted instruction, students will study medical terminology related to the major body systems. Emphasis will include the use of medical word parts, pronunciation, spelling and the definitions of key pathology, diagnostic and treatment procedures terms.

##### 305 Ethics for Health Care Professionals (3)

Designed to introduce pre-health professional students to ethical theories and concepts, assist in identifying potential ethical dilemmas, and provide a system for ethical analysis. Current issues in health care ethics will be discussed throughout the course. Web-assisted technology will be utilized to accomplish



the course objectives.

#### 401 Introduction to Patient/Client Management (2)

To provide the student with basic patient care skills. Topics to be included are critical observation, universal precautions, medical chart review, methods of measuring and recording vital signs, basic wheelchair features, basic crutch gaits and transfer techniques, and emergency care. Fall semester. Lecture 1 hour, laboratory 2 hours.

#### 405 Informatics in Physical Therapy (1)

This course provides an introduction to the acquisition, utilization and presentation of information by physical therapists with emphasis on technology and the use of computers. Upon successful completion of this course, students will be able to develop focused clinical questions, conduct systematic evidence-based literature searches, identify levels of evidence, and develop creative means of communication using a variety of active learning techniques. A brief overview of the use of technology in medical diagnostic imaging is included. Fall semester.

#### 410 Human Gross Anatomy (6)

This course is a combined lecture-laboratory program designed to present to the student an understanding of basic and clinical, human gross anatomy. Normal diagnostic imaging techniques will be introduced. Detailed regional analysis of the buttock, lower extremity, and upper extremity will be performed. Structure and function of the head, neck, and trunk regions will be studied. Major joints will be discussed. Anatomy of the thoracic and abdominal cavities will be introduced. Fall semester, year 1. Lecture 2 hours, laboratory 2 hours.

#### 411 Therapeutic Exercise and Health Promotion (3)

This course will provide the student with a basic foundation of the knowledge and skills needed to prescribe and apply therapeutic exercise in the practice of physical therapy. The role of the physical therapist the prevention and promotion of health, wellness and fitness is emphasized. Normal physiology and exercise physiology as it relates to the topics presented will be reviewed. The focus of this course will be on how to perform basic exercises used in physical therapy, as well as the rationale of why and when they are applied. This course will also provide the foundation for therapeutic exercise units within the applied courses (orthopedics, neurology, acute care) of the curriculum. Fall semester. Lecture 2 hours and lab 2 hours. *Prerequisites: Biology 208 and 209; Physical Therapy 316 and 317.*

#### 414 Kinesiology and Biomechanics (2)

An introduction to kinesiology through the study of biomechanics, including statics and dynamics, joint kinematics, and related aspects of muscle mechanics and physiology. Emphasis is on the importance of mechanical principles in relation to analysis of the human body at rest and in motion, both in normal and selected pathological conditions. Spring semester. Lecture 1 hour, laboratory 2 hours.

#### 415 Neuroscience (5)

This course presents an understanding of peripheral and central nervous system, human anatomy, embryology, histopathology and physiology. Correlation of neurological lesions with resultant clinical signs and symptoms is emphasized in patient/client case study format. Spring semester, year 1. Lecture 3 hours, laboratory 4 hours.

#### 416 Physical Agents (2)

This course will provide the student with the didactic and clinical applications of selected physical agents used in physical therapy practice including cryotherapy, hydrotherapy, sound agents, thermotherapy, and light agents. Spring semester. Lecture 1 hour, laboratory 2 hours. *Prerequisite PHYT 401.*

#### 420 Professional Communication and Education (2)

This course addresses the principles of clinical teaching including the establishment of objectives, instructional methods, assessment of learning, and strategies for improving motivation and compliance. The course also addresses the development of effective professional communication skills. Emphasis will be placed on assertiveness, learning, and active listening behaviors. Fall semester. Lecture 2 hours. *Prerequisite: Psychology 101.*

#### 421 Musculoskeletal Examination (2)

The student will learn the essential steps in the evaluation of function in a patient with musculoskeletal dysfunction. Examination skills for the measure-

ment of joint motion, muscle strength, and posture are demonstrated and practiced. Fall semester. Lecture 1 hour, laboratory 2 hours.

#### 435 Clinically Applied Orthopedics (1)

This course provides students enrolled in the first year of the doctoral curriculum in physical therapy an introduction to selected topics concerning documentation of patient records, the changing health care system, and an introduction to orthopedic physical therapy through clinical exposure. Spring semester.

#### 440 Pathophysiology of the Musculoskeletal System I (2)

With the aid of case studies, audiovisual support and handouts, this course will survey the clinical correlations of signs and symptoms of dysfunction of the musculoskeletal system. The fundamental concepts of histology and disease-producing mechanisms, and pathologic processes, of musculoskeletal system will be presented. Wound-healing will be introduced. Pharmacology will be introduced relating to specific musculoskeletal diseases. Spring semester, year 1. Lecture 2 hours.

#### 450 Patient/Client Management of Musculoskeletal Disorders of the Extremities (4)

Provides the student with the didactic and clinical applications of evaluative measures, therapeutic interventions, and treatment rationale for select musculoskeletal dysfunctions of the extremities. Spring semesters, year 1. Lecture 2 hours, laboratory 4 hours.

#### 495r Departmental Honors (1-4 hours per term, 4 hours for the two terms)

On demand. See "Departmental Honors," page 39.

#### 511 Physical Therapy Management of Cardiopulmonary Dysfunction (3)

This course provides the student with the didactic and clinical applications for pathology, examination, evaluation, diagnosis, prognosis, intervention and expected outcomes in the management of clients with dysfunction of the cardiopulmonary system. Renal system dysfunction, cardiovascular complications of diabetes, and the role of physical therapy in the intensive care unit will also be addressed. Spring semester, year 2. Lecture 2 hours, laboratory 1 hour. *Prerequisite: Physical Therapy 411.*

#### 512 Patient/Client Management of Musculoskeletal Disorders of the Spine (4)

Provides the student with the didactic and clinical applications of evaluative measures, therapeutic interventions, and treatment rationale for select musculoskeletal dysfunctions, with emphasis on the neck and trunk. Summer semester, year 1. Lecture 2 hours, laboratory 4 hours.

#### 514 Clinical Education I (7)

This is an introductory clinical experience following successful completion of the first three semesters of didactic work. The student performs the elements of patient/client management with an emphasis on musculoskeletal dysfunction in an outpatient/ambulatory care setting under the direct supervision of a physical therapist. Summer semester, year 1. 280 clinical hours.

#### 515 Neuroscience (5)

This course presents an understanding of peripheral and central nervous system human anatomy, embryology, histopathology, and physiology. Correlation of neurological lesions with resultant clinical signs and symptoms is emphasized in patient/client case study format. Spring semester, year 1. Lecture 3 hours, laboratory 4 hours.

#### 518 Electrotherapeutic Modalities (2)

This course will provide the student with the didactic and clinical applications of electrotherapeutic modalities (electrical stimulation and biofeedback). Summer semester, year 1. Lecture 1 hour, laboratory 2 hours. *Prerequisite: Physical Therapy 416.*

#### 520 Psychosocial Aspects of Disability (2)

Includes the study of basic concepts and principles essential to the understanding of therapist/patient/family reactions to disability and disease. Issues regarding non-health factors, physical, psychological and social function are discussed as related to the impact on quality of life. Specific topics include

employment and architectural barriers and regulations, various reactions to specific diseases and disabilities, and death and dying. Roles of other professions, agencies and support groups facilitating adjustment to functional limitations and disability are included. Spring semester, year 2. Lecture 2 hours.

### 522 Administration in Physical Therapy (3)

This course introduces the health care delivery system, organizational structures, financial management, reimbursement, strategic planning, facility design, marketing principles, outcome management, private practice, risk management, and efficient and effective use of available time, personnel and equipment. Students have the opportunity to discuss and present reform issues affecting physical therapy practice. Fall semester, year 3. Lecture 3 hours.

### 525 Critical Inquiry (3)

Teaches the importance of the scientific method in physical therapy, both to understand disease processes and to evaluate the efficacy of different methods of treatment. The student will examine the evidence for accepted methods of treatment and evaluate published research studies with reference to hypothesis, methodology, conclusions and relevance to physical therapy practice. The student will acquire the skills necessary to develop a research proposal, which will be carried out in Physical Therapy 550: Research Project. Fall semester, year 2. Lecture 3 hours. *Prerequisite: Mathematics 210 or Psychology 201.*

### 526 Physical Therapy Management of Medical/Surgical Conditions I (3)

This course provides the student with the physiologic, didactic, and clinical applications of physical therapy examination, evaluation, therapeutic interventions, and management for a variety of medical and surgical conditions. Upon successful completion of this course, the student will be familiar with the pathophysiology, etiology, incidence, signs and symptoms, impairments, functional limitations, system disorders, blood disorders, cancer, lymphedema, women's health issues, rheumatic disease, and chronic pain. Fall semester, year 2. Lecture 2 hours, laboratory 2 hours.

### 528 Gait Analysis (2)

The student will study normal and pathological human gait, and will be able to make objective measurements of the general gait parameters, identify abnormal gait patterns, and describe the options available for treating patients with different gait disorders. Fall semester, year 3. Lecture 1 hour, laboratory 2 hours.

### 532 Clinical Education II (6)

This acute care clinical experience follows successful completion of all didactic work in the spring semester of the second year. The student performs the elements of patient/client management with an emphasis on the musculoskeletal, cardiopulmonary and integumentary systems and begins application of basic neuroscience principles. Summer semester, year 2. 240 clinical hours. *Prerequisite: Physical Therapy 514.*

### 534 Clinical Education III (8)

This clinical experience occurs during the eighth (final) semester. The student performs the elements of patient/client management with an emphasis on the neuromuscular, musculoskeletal, cardiopulmonary and integumentary systems working predominantly with patients with neurologic dysfunctions. Spring semester, year 3. 320 clinical hours. *Prerequisite: Physical Therapy 532.*

### 535 Clinical Applications Across the Lifespan (1)

This course provides students with an in-depth study of clinical applications across the lifespan. Students enrolled in this course will have the opportunity to participate in the following clinical experiences: a neonatal intensive care unit, a home health visit, an Alzheimer's care program, a nursing home, and an assisted living center. Student generated case reports will be utilized throughout the course to emphasize evidence-based practice in these clinical arenas. Fall semester, year 2. Lecture 2 hours.

### 536 Clinical Internship (15)

This clinical internship is the final course of the curriculum. Students will work under the direct supervision of a physical therapist focusing on a particular patient/client population selected by the student. The desired outcome is for the student to reach entry-level performance in patient/client management. 600 clinical hours. *Prerequisite: Physical Therapy 534.*

### 538 Physical Therapy Management of Patients with Neurological Dysfunction I (4)

This course provides the student with the pathologic, didactic and clinical applications of physical therapy examination, evaluation, therapeutic interventions, and management for neurologic conditions related to spinal cord injury, neuromuscular diseases, and peripheral neuropathies. Fall semester, year 2. Lecture 2 hours, laboratory 4 hours.

### 540 Differential Diagnosis in Physical Therapy (2)

This course is designed to provide physical therapy students with the screening tools necessary to recognize reported and unreported symptoms or medical conditions that warrant referral to other appropriate health care practitioners. Fall semester, year 3. Lecture 1 hour, laboratory 2 hours.

### 542 Physical Therapy Management of Adults and Elders with Neurological Dysfunction II (3)

This course provides the student with the pathophysiology, didactic and clinical applications of physical therapy examination, evaluation, therapeutic interventions, and management for neurologic conditions such as cerebral vascular accident, infectious disorders and tumors of the central nervous system, traumatic brain injury, vestibular dysfunction, cerebellar dysfunction, multiple sclerosis, Parkinson's disease, and Alzheimer's disease. Upon successful completion of this course, the student will be familiar with the pathophysiology, etiology, incidence, signs and symptoms, impairments, functional limitations, disabilities, prognosis, and medical, surgical and physical therapy management of common disorders associated with central nervous system dysfunction. Spring semester, year 2. Lecture 1 hour, laboratory 4 hours. *Prerequisites: Physical Therapy 515, 538, 553; Corequisite: Physical Therapy 544.*

### 544 Physical Therapy Management of Infants, Children and Adolescents with Neurological Dysfunction III (3)

This course introduces the student to the basic principles of physical therapy management for infants, children and adolescents with central nervous system dysfunction. Content includes a review of pathophysiology, examination techniques and intervention rationale for common pediatric disorders such as cerebral palsy, traumatic brain injury, sensory-motor impairments, developmental coordination disorder, genetic disorders, mental retardation, and neuromotor complications of prematurity and environmental risk exposure. Spring semester, year 2. Lecture 1 hour, laboratory 4 hours. *Prerequisites: Physical Therapy 515, 528, 553; Corequisite: Physical Therapy 542.*

### 545 Preparation for Licensure (1)

This course is a comprehensive review of the physical therapy curriculum in preparation for the National Physical Therapy Examination. Test taking strategies and licensure preparation will be included. Lecture 1 hour.

### 548 Physical Therapy Management of Medical/Surgical Conditions II (3)

This course provides the student with the didactic and clinical applications of pathology, examination, evaluation, diagnosis, prognosis, intervention, and expected outcomes in the management of clients with integumentary system disorders and for management of the clients before and after amputation. The holistic approach to management will be emphasized. Spring semester, year 2. Lecture 2 hours, laboratory 1 hour. *Prerequisite: Physical Therapy 526.*

### 550r Research Project (2)

Students will work in small groups to complete the research project initiated in Physical Therapy 525. The three types of projects that are allowed in this course are a case study, an evidence-based review of literature and a research project. Students will be responsible for completion of the project according to the established criteria for the specific project approved by the faculty advisor. An oral presentation is required. Spring semester, year 2, and fall semester, year 3. Laboratory 2 hours. *Prerequisite: Physical Therapy 525.*

### 553 Human Growth and Development Across the Lifespan (3)

This course will investigate the human life cycle from the early embryo to old age. Emphasis will be placed on the study of the principles, processes and phases of physical growth and development, as well as the strengths and limitations imposed on the individual with advancing age. Fall semester, year 2. Lecture 2 hours, laboratory 2 hours.

### 555 Applied Patient/Client Management (1)

Physical therapy concepts and skills gained throughout the curriculum will be

integrated in a formal presentation of a patient case study. Emphasis will be placed on evaluating the physical therapy plan of care in the context of the total patient as he or she exists in society. Treatment alternatives selected will be validated through the use of professional literature. The oral defense of each case study will include interactions among student, faculty, and clinical instructors. Additionally, this course will encourage integration of current literature as students participate in journal club presentations.

**597r Individual Studies (1-3)**

Elective course offering that will vary according to student needs and interests. Options will include clinical opportunities to investigate aspects of physical therapy of special interest to the student. Course requirements will vary according to the type of elective offered and will be determined by the instructor. Fall semester, year 3. *Prerequisite: approval of advisor and department head.*

# Other Educational and Public Service Units

## Adult Services Center

Margaret Daniel, *Director*

The Adult Services Center, located in 278 University Center, is open from 11 a.m. - 7 p.m., Monday through Thursday; 11 a.m. - 5 p.m., Friday; and 10 a.m. - noon, Saturday; for the convenience of non-traditional students. The center provides individualized advisement, registration, fee collection, and other University services for non-traditional students.

Students who have received one bachelor's degree and desire to pursue a second bachelor's degree should apply for admission as postbaccalaureate students through the Adult Services Center. The admission process and evaluation of transcripts for those students are carried out in the center. Questions regarding the pursuit of a second bachelor's degree should be directed to the Director of the Adult Services Center at (423) 425-4485.

Tutoring assistance is available in many 100- and 200-level courses in the Adult Services Center in the evenings during the fall and spring semesters. Workshops and seminars related to educational opportunities and transitions are conducted for individuals who are currently enrolled or who are interested in either entering or returning to college.

### Senior Citizens and Disabled Persons

#### Free Audit Program

Persons who are over 60 years of age or totally disabled may audit courses at The University of Tennessee at Chattanooga without charge in any class where there is space available beyond that needed for students who pay fees. Some courses that have special prerequisites or conditions are not available under this option. In addition, persons who are over 65 or totally disabled may, if admitted, enroll in credit courses for a fee of \$7.50 per semester hour to a maximum of \$75 per semester. The Adult Services Center assists the senior citizen or disabled individual by providing orientation to the campus, completing admission forms, and registering the individual for the course(s) selected. Persons interested in participating should contact the Adult Services Center rather than applying for admission at the UTC Admissions Office.

## Cooperative Education

Hugh Prevost, *Director*

The Cooperative Education Program provides students with an opportunity to (1) explore career goals while working with skilled and knowledgeable professionals, (2) enhance employment opportunities at graduation by providing career-related work experience, (3) help defray college expenses, and (4) gain college credit (in some departments). Co-op students work with such diverse and innovative companies as Alco Chemical, Decosimo CPA, Evergreen Financial Services, Microsoft, TVA, Dupont, NASA, Shaw Industries, and General Electric, as well as a number of local firms that have developed Co-op Education programs.

Cooperative Education is an optional educational program that combines a student's academic study and paid major-related work experience. The UTC Office of Cooperative Education offers three basic modes of student participation: (1) alternating Co-op, (2) parallel Co-op, and (3) the internship. The two Co-op plans offer students the opportunity to work multi-semester. Students choosing the *alternating plan* alternate semesters of full-time study with semesters of full-time work. The *parallel plan* allows students to attend classes while working with local employers for up to 25 hours a week. The Co-op Office also works with students to help find full-time or part-time semester paid *internships*.

To be eligible, students must (1) be enrolled at UTC, (2) have completed freshman course requirements in their major, and (3) have a cumulative GPA of 2.50 (2.75 for business majors). After placement, students must maintain a 2.0 GPA, complete all assigned work periods, and register for a non-credit class that certifies them as a UTC co-op student. The program is offered to students in all UTC curricula. For more information, contact the Co-op Office, 326 University Center, (423) 425-4735, or check out our website: <http://www.utc.edu/coopeduc/>.

### Individualized Education Program

The Individualized Education Program (IEP) was initiated to assist adult students who have not completed the requirements for a baccalaureate degree and who wish to enter or return to the University after working for several years. The program assists

students in making the transition back into college and acts as the coordinating agent for awarding general elective credit for the student's work experience, non-collegiate, in-service training, or professional certification.

Students interested in pursuing IEP elective credit are encouraged to contact the Office of Cooperative Education, (423) 425-4735, to make an appointment with the IEP coordinator to discuss their college plans. During this initial visit, students will receive a detailed explanation of the procedures to follow to complete the IEP process. Students should be aware that not all of the University's academic units award IEO credit and that the submission of an IEO application does not guarantee the award of elective credit. Each application will be reviewed by the faculty of the petitioned department, and credit awarded on the individual merit of the application. A fee based on the current charge for each hour of credit awarded and a \$50.00 application fee will be charged upon award.

## Continuing Education and Public Service

The Division of Continuing Education and Public Service provides high quality lifelong learning opportunities to individuals seeking personal growth or professional development programs; workshops or certificates; and college degrees to students who are located off-campus.

### Off-campus and Distance Learning Credit Courses

Beth Dodd, *Director*

Tonya Pace, *Distance Learning Manager*

To meet the needs of individuals who wish to complete degree programs at off-campus locations, a balanced schedule of credit offerings are presented at numerous locations including Cleveland, Knoxville and Chattanooga. Instruction includes both on-site and distance learning via real-time, two-way interactive telecourses. Persons interested in receiving off-campus instruction should contact the Division of Continuing Education for further information at (423) 755-4344.

### Professional Development

Cheryl Richelson, *Program Coordinator*

To meet the needs of individuals and groups seeking professional development learning experiences, Pathways to Excellence, a continuous learning process, is skill-based and offered in both public and customized formats. Pathways to Excellence includes over 100 modules designed to enhance professional growth in areas of Leadership, Performance Management, Quality and Workplace Teams and also offers thirteen certificate programs. Pathways to Excellence includes professional certification preparation programs for Professional Engineers, Professionals in Human Resource Management and Certified Public Accountants.

The professional development programs award Continuing Education Units (CEUs), and the division maintains individual transcripts and issues certificates.

### Community Outreach

Ginny Reese, *Assistant Director*

Katie Harbison, *Coordinator*

To extend university resources to the community, the Division offers personal development programs for all ages including Youth University, the Chattanooga Ballet, Elderscholars and courses in art, literature, foreign languages, recreation and others.

The Division coordinates the admission and advisement of local high school students participating in the **Tennessee Joint Enrollment** program and **UTC's College Challenge Program**.

### Meeting Management and Video Production

Cheryl Richelson, *Meeting Management*

Chris Willis, *Video Production*

The Division of Continuing Education professional staff offers a top quality learning environment and a wide variety of program planning and implementation services.

- Fifteen+ meeting rooms with seating from 10 to 450
- Flexible seating arrangements
- Event/conference management services
- Teleconferencing & satellite downlink
- Catering services to meet all your needs
- Registration services
- Video production services

## Information Technology Division

Monty Wilson, *Assistant Vice Chancellor*

The mission of the Information Technology Division is to provide students, faculty, and staff with information technology services that are available, reliable, responsive, cost effective, and delivered in a proactive and courteous manner.

The University provides both general-purpose computer labs and more than sixty departmental labs. All buildings and dorms on the campus have high-speed Internet access. Students, faculty and staff have accounts and networked storage for e-mail, documents, and personal web pages. A Help Desk supplies technical support including troubleshooting of hardware and software and assistance in connecting to the campus network. Audiovisual technology is provided through permanent classroom installations and equipment delivery upon request. For more information on technology services, see <http://itd.utc.edu>.

## Lupton Library

Theresa Liedtka, *Dean, UTC Lupton Library*

The Lupton Library is the center of many teaching, learning, and research activities of the students, faculty, and staff of UTC, as well as members of the metropolitan Chattanooga community. The library maintains a collection of over 500,000 books, 10,000 current periodical subscriptions, 25,000 reels of microfilm, and 19,000 audiovisual items. Total holdings add up to over 1.9 million physical pieces of material.

The Lupton Library's on-line catalog enables users to locate items in the library's collections. Anyone with an Internet con-

nection may access the on-line catalog by visiting the library's web pages at <http://www.lib.utc.edu>. In addition, electronic access is available to approximately 95 databases which index and abstract magazine and journal articles, some of which are full text. Areas of database coverage include business, medicine and health, education, psychology, law, biology, and many other academic areas. Current students, faculty and staff can access the electronic indexes from off-campus.

Reference librarians staff the Reference Desk on the first floor of the Lupton Library during almost all hours of operation. Individual instruction and personal appointments are available for both brief and in depth research questions. The librarians also provide a wide array of library instruction classes complementing university courses.

To borrow circulating materials from the Lupton Library, individuals must present a valid, barcoded identification card known as a Mocs Card. The standard loan period for undergraduate students is 4 weeks. Along with the collections of UTC's Lupton Library, UTC students, faculty, and staff with valid identification are granted reciprocal borrowing privileges at all libraries of the University of Tennessee and Tennessee Board of Regents Systems. Additionally, UTC students may borrow materials not owned by UTC from other libraries through the Interlibrary Loan Service (ILL). In addition to books, the library also circulates 18 laptops to students, as well as making available eight group study rooms to student use.

UTC faculty members may reserve certain items for special use by students in their classes. These items are listed in the on-line catalog as "on reserve" and are shelved behind the Circulation Counter on the first floor. The loan period for these items ranges from two hours to one week. The use of most reserved items is limited to within the UTC Library building. Fines for reserve items accrue at the rate of 25 cents per hour.

The Special Collections portion of Lupton Library houses the University Archives, Local History and Manuscript Collections, Rare Books, and the Archives of the Fellowship of Southern Writers. The Special Collections currently hold over 90 local history and manuscript collections dealing with the Civil War and other subjects of regional interest. A listing of these collections can be found by either visiting the Special Collections web site or by searching the library's on-line catalog.

Library materials that are lost or returned after the due date are subject to fines. Fines accrue at a rate of 25 cents per day / per item. After an item is overdue for 21 days, the borrower will be sent a letter concerning the overdue item. If there is no response, the UTC Library then assumes that the item is lost, and the borrower is charged the current cost of replacement plus a processing fee of \$25. If the item is returned at this time, only the accrued fine is charged. In situations where fines are not paid as required, responsible individuals will be blocked from use of the library. These individuals will also not be permitted by the business office and the registrar either to register or to receive course credits and transcripts until the outstanding obligations are fully cleared.

## Southeast Center for

## Education in the Arts

Kim Wheatley, *Director*

The Southeast Center for Education in the Arts (SCEA) nurtures creative inquiry into teaching and learning. Innovative professional development in comprehensive arts education and school reform assists elementary, secondary and university educators in establishing the rigorous study of the arts as an integral component of basic education for all students.

As one of six regional institutes established by the Getty Education Institute for the Arts in 1988, SCEA has pioneered research in discipline-based dance, music, theatre and visual arts education. Instructional materials and workshops are designed to enable teachers to actively engage students in aesthetic, historical, and critical inquiry as well as arts production. Current work is focused on exploring ways in which ongoing professional development, multi-arts education, and arts integration can enhance learning and transform schools.

SCEA personnel travel nationwide facilitating meetings, teaching classes, conducting workshops, and serving as consultants and writers for various professional associations and state education departments. Center directors have contributed to the creation of the National Standards for Arts Education and the INTASC Standards for Licensing Teachers.

A new arts integration course for UTC education majors is team taught by SCEA directors at the Battle Academy for Teaching and Learning. The Center is currently working with Lavine Production Group in New York City on three educational television series and accompanying websites for the Annenberg Corporation for Public Broadcasting.

The Southeast Center fosters unique collaborations among people and institutions. It has significantly impacted local, state and national education policy and practice. The Tennessee Arts Commission awarded SCEA the 2003 Governor's Arts Leadership Award.

For more information see the Center's website: <http://utc.edu/SCEA>.

## Student Support Services

Shirl S. Gholston, *Director*

The Division of Student Support Services, Project FOCUS (Facilitating Opportunity and Climate for Underrepresented Students) is a federally funded TRIO program that provides academic support to eligible students. Program services and activities are designed to increase the retention and graduation rates of participants. Eligibility is considered if students are low income, or first generation college students (neither parent has a bachelor's degree), or have a documented disability. There is no charge to students for the following services and activities:

*Peer Tutorials* — The Peer Tutorial program provides additional assistance outside the classroom to students who have difficulty grasping specific course skills. The subjects for which assistance is offered are core courses taken by freshmen and sophomore students. Students are scheduled to work with a Peer Tutor on a weekly basis throughout the semester.

*Career Counseling* — This service helps students determine which careers are of particular interest to them and how to meet

the University requirements for their major choice.

*Academic Counseling* — The project's Academic Counseling model identifies deficiencies that may impede students' success at UTC. Each student receives a diagnostic profile of his/her needs which includes a prescribed program of services and activities designed to eliminate or minimize deficiencies.

*Financial Support* — The program provides financial support to program participants in the form of Grant Aid Awards, Scholarships, a Book Loan Program, opportunities for employment, free use of program resources, and costs paid for approved events. The program also provides information on additional financial resources to help students finance their bachelor's degree and studies at the graduate level.

*Graduate School Advising* — The goal of this service is to inspire qualified students to obtain a graduate or professional degree. Students are assisted to raise their cumulative grade point average. The program also offers graduate or professional school entrance examination study techniques and assistance with the application process.

*Cultural Enrichment Activities* — Students are given free tickets to local and regional cultural enrichment events.

*Peer Mentoring* — This service provides opportunities for freshmen to build relationships with Peer Mentors (successful upper-class students). Students are matched with a Peer Mentor (to the extent possible) according to academic major, and/or career interest.

Students may apply for admission by picking up an application in Siskin Trailer A or by contacting staff at (423) 425-5235. Applicants are selected based on availability of space in the program. For additional information, visit the web site at <http://www.utc.edu/~utcsss>.

## Upward Bound

Booker T. Scruggs, II, *Director*

Upward Bound is a college preparatory program that provides eligible high school students with academic and cultural activities to improve their chances of entering and successfully completing postsecondary education. Students are recommended by their high school guidance counselors and selected by the Upward Bound staff. High schools served are Brainerd, East Ridge and Howard. Upward Bound offices are located in 212 Race Hall.

## Grayson H. Walker

## Teaching Resource Center

Karen I. Adsit, *Professor and Director*

The Grayson H. Walker Teaching Resource Center staff works with faculty to improve teaching and learning and to integrate technology into the classroom. The Walker Teaching Resource Center provides campus-wide faculty development seminars, workshops, and individual consultations on methods to improve teaching, learning, and to integrate technology into the classroom. Virtual workshops on topics are also available through the Walker Teaching Center website at <http://www.utc.edu/TRC/>.

The Walker Teaching Resource Center also provides instructional design consultation for faculty who wish to produce multimedia and other instructional materials.

The Walker Teaching Resource Center is located in 401 Hunter Hall.

## WUTC

John McCormack, *Station Manager*

WUTC is the public radio station licensed to The University of Tennessee at Chattanooga. Operating at 88.1 FM, it provides a 24 hour-a-day broadcasting service. WUTC is the Blues, Jazz, acoustic music, and informational programming source for this area. WUTC is the National Public Radio Station for the tri-state region.

# Administration and Faculty

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**Jane W. Harbaugh**, Guerry Professor Emerita, History, Ph.D., Tufts University.

**Arlie Herron**, Professor Emeritus, English, M.A., University of Georgia.

**Reuben W. Holland**, Professor Emeritus, French, M.A., Emory University.

**H. Larry Ingle**, Professor Emeritus, History, Ph.D., University of Wisconsin.

**Joseph A. Jackson**, Professor Emeritus, Library, Ed.D., Vanderbilt University.

**Mary B. Jackson**, Professor Emerita, Nursing, M.S.N., University of Alabama, Tuscaloosa.

**Thomas K. Jones**, Associate Professor Emeritus, Foreign Languages and Literatures, Ed.D., University of Tennessee, Knoxville.

**Douglas E. Kingdon**, Associate Professor Emeritus, Ed.D., State University of New York at Buffalo.

**Eric Trent Lane**, Professor Emeritus, Ph.D., Rice University.

**James Weston Livingood**, Guerry Professor Emeritus, History, Ph.D., Princeton University.

**Myron Stanley McCay**, Guerry Professor Emeritus, Physics, Ph.D., Ohio State University.

**Louise Willis McIntosh**, Professor Emerita, Mathematics, M.S., University of Chattanooga.

**Robert L. McNeely**, Professor Emeritus, Chemistry, Ph.D., University of North Carolina.

**Ronald Oury Moore**, Associate Professor Emeritus; History, Ph.D., University of Virginia.

**Robert G. Norred**, Professor Emeritus, Exercise Science, Health, and Leisure Studies, Ed.D., University of Alabama.

**B. Carter Pate**, Associate Professor Emeritus, Sociology, Anthropology, and Geography, Ph.D., Boston University Graduate School.

**P. Jan Printz**, Professor Emerita, Human Services, Ph.D., University of Tennessee, Knoxville.

**J. Eric Schonblom**, Professor Emeritus, Engineering, Ph.D., University of Florida.

**Hugh Seay**, Professor Emeritus, Spanish, Ph.D., University of North Carolina.

**John Douglas Tinkler**, Professor Emeritus, Ph.D., Stanford University.

**John E. Trimpey**, Professor Emeritus of Humanities, Ph.D., Ohio University.

**Margaret Trimpey**, Associate Professor Emerita, Nursing, M.S.N., Vanderbilt University.

**Nicholas G. Vredvelde**, Professor Emeritus, Biological and Environmental Sciences, Ph.D., Michigan State University.

**Dorothy Hackett Ward**, Guerry Professor Emerita, Theatre and Speech, M.F.A., Yale University.

**James G. Ware**, Professor Emeritus, Mathematics, Ph.D., George Peabody College for Teachers.

**Donald Robert Weisbaker**, Professor Emeritus, Philosophy and Religion, Ph.D., University of Chicago.

**Colbert W. Whitaker**, Professor Emeritus, Graduate Studies, Education, Ed.D., University of Tennessee.

## Faculty, 2004-2005 College of Arts and Sciences Art

**Daniel Bethune**, Lecturer, M.F.A., University of Florida.

**Ron Buffington**, UC Foundation Associate Professor, M.F.A., University of Cincinnati.

**Robert Cox**, Lecturer, M.F.A., University of Memphis.

**Matt Greenwell**, UC Foundation Associate Professor, Department Head, M.F.A., University of Iowa.

**Stephen S. LeWinter**, Professor, M.A., University of South Florida.

**Anne Lindsey**, Professor, Ph.D., Florida State University.

**Maggie M. McMahon**, UC Foundation Professor, M.F.A., Clemson University.

**Rebecca Targ**, Assistant Professor, M.F.A., Art Institute of Chicago.

**Gavin Edward Townsend**, Professor, Ph.D., University of California, Santa Barbara.

**E. Alan White**, Professor, M.F.A., University of Cincinnati.

**David Young**, Assistant Professor, M.F.A., University of Georgia.

### Adjunct Art

**George Cress**, M.F.A., University of Georgia.

**Neil Robinson**, M.A., St. Francis College.

## Biological and Environmental Sciences

**David A. Aborn**, Assistant Professor, Ph.D., University of Southern Mississippi.

**Bret Clough**, Lecturer, M.S., University of Houston, Clear Lake.

**Linda T. Collins**, Rount Distinguished Teaching Associate Professor, M.A.T., The University of Tennessee at Chattanooga.

**J. Hill Craddock**, Davenport Associate Professor, D.R., University of Torino, Torino, Italy.

**Ross M. Durham**, Professor, Ph.D., University of California, Los Angeles.

**Timothy J. Gaudin**, UC Foundation Associate Professor, Ph.D., University of Chicago.

**Robert D. Keller**, Assistant Professor, Ph.D., Wake Forest University.

**Margaret Kovach**, Assistant Professor, Ph.D., Colorado State University, Fort Collins.

**Deborah S. Kreiss**, Assistant Professor, Ph.D., University of Pennsylvania.

**R. Gary Litchford**, Professor, Graduate Program Coordinator, Ph.D., Rice University.

**Charles H. Nelson**, Professor, Department Head, Ph.D., University of Massachusetts, Amherst.

**Bradley R. Reynolds**, Lecturer, M.S., The University of Tennessee at Chattanooga.

**Sean Richards**, Assistant Professor, Ph.D., Texas Tech University, Lubbock.

**Mark S. Schorr**, UC Foundation Professor, Ph.D., Mississippi State University.

**Henry G. Spratt, Jr.**, Professor, Ph.D., University of Georgia.

**John C. Tucker**, Associate Professor, J.D., University of Florida.

**Gene S. Van Horn**, Wilson Distinguished Teaching Professor, Ph.D., University of California, Berkeley.

**Barbara A. Walton**, Professor, Ph.D., University of Oklahoma.

**Thomas Wilson**, Research Associate, Ph.D., George Mason University.

### Adjunct Biology

**Carol Kimmons**, M.S., University of Tennessee, Knoxville.

**John Kimmons**, M.S., University of New Mexico.

**Helen McDearman**, M.Ed., The University of Tennessee at Chattanooga.

## Chemistry

**Gregory J. Grant**, Irvine W. Grote Professor, Ph.D., Georgia Institute of Technology.

**Daron E. Janzen**, Grote Fellow/Assistant Professor, A.B.D., University of Minnesota.

**Kyle S. Knight**, Associate Professor, Ph.D., Stanford University.

**H. Douglas Kutz**, Ben Gross Professor, Department Head, Ph.D., University of Notre Dame.

**John August Lynch**, Professor, Ph.D., Pennsylvania State

University.

**Robert C. Mebane**, Nita T. Grote Professor, Ph.D., Duke University.

**Gail M. Meyer**, UC Foundation Professor, Ed.D., University of Tennessee, Knoxville.

**Jimmie D. Narramore**, Faculty Associate, M.Ed. University of Tennessee at Chattanooga.

**Frederick W. Obear**, University Professor and Interim Chancellor, Ph.D., University of New Hampshire.

**Grethen E. Potts**, Assistant Professor, Ph.D., University of Florida.

**Thomas R. Rybolt**, UC Foundation Professor, Ph.D., Georgia Institute of Technology.

**Manuel Santiago**, Assistant Professor, Ph.D., South Dakota State University.

**Steven K. Symes**, Assistant Professor, Ph.D., University of Arkansas.

**Thomas G. Waddell**, Guerry Professor, Ph.D., University of California, Los Angeles.

### Adjunct Chemistry

**Susan M. Fant**, B.S., The University of Tennessee at Chattanooga.

**Thomas A. Orofino**, Ph.D., Cornell University

**C.K. Reynolds III**, B.S., Georgia State University.

## Communication

**Betsy B. Alderman**, UC Foundation Associate Professor, Ed.D., University of West Virginia.

**Rebekah Bromley**, Associate Professor, Ph.D., University of Tennessee, Knoxville.

**Elizabeth Gailey**, Assistant Professor, Ph.D., University of Tennessee, Knoxville.

**Felicia McGee-Hilt**, Lecturer, B.A., University of Michigan.

**Peter K. Pringle**, Luther Masingill Professor, Ph.D., Ohio University.

**S. Kittrell Rushing**, Frank McDonald Professor, Department Head, Ph.D., University of Mississippi.

**David Sachsman**, Professor and West Chair of Excellence, Ph.D., Stanford University.

### Adjunct Communication

**Chris Willis**, M.A., The University of Tennessee at Chattanooga.

## Criminal Justice and Legal Assistant Studies

**Vic Bumphus**, Associate Professor, Grad Coordinator, Ph.D., Michigan State University.

**Kimberley A. Carr**, Lecturer, M.S., The University of Tennessee at Chattanooga.

**Helen M. Eigenberg**, Professor, Department Head, Ph.D., Sam Houston State University.

**Angel Geoghagan**, Lecturer, M.S., The University of Tennessee at Chattanooga.

**Richard Hogan**, Assistant Professor, Ph.D., University of Missouri - Kansas City.

**Karen McGuffee**, Assistant Professor, J.D., University of Tennessee, Knoxville.

**Roger D. Thompson**, Associate Professor, Coordinator, Ed.D., University of Tennessee, Knoxville.

**Kenneth Venters**, Professor, Ph.D., Florida State University.

### Adjunct Criminal Justice/Legal Assistant Studies

**Gary Behler**, M.S., The University of Tennessee at Chattanooga.

**W. Jack Benson, Jr.**, J.D., The University of Tennessee College of Law.

**Larry Lyda**, M.S., University of South Carolina.

**Jeffrey P. Rush**, Assistant Professor, D.R.A., University of Alabama.

**W. Neil Thomas, III**, J.D. University of Michigan.

**Harriet A. White**, M.S.C.J., The University of Tennessee at Chattanooga.

## Economics

**J.R. Clark**, Probasco Chair, Director Center for Economic Education, Professor, Ph.D., Virginia Polytechnic Institute and State University.

**Fritz Efaw**, Associate Professor, Ph.D., Rutgers University.

**John R. Garrett**, UC Foundation Professor, Ph.D., University of Massachusetts.

**Phillip E. Giffin**, Professor, Ph.D., University of Tennessee, Knoxville.

**E. Bruce Hutchinson**, Professor, Ph.D., University of Virginia.

**Ziad Keilany**, Guerry Professor, Department Head, Ph.D., Indiana University.

**Leila J. Pratt**, Hart Professor, Ph.D., Virginia Polytechnic Institute and State University.

**Alan Rabin**, UC Foundation Professor, Ph.D., University of Virginia.

### Adjunct Economics

**Travis Hayes**, M.B.A., The University of Tennessee at Chattanooga.



Robert N. Watkin, Jr., Ph.D., Vanderbilt University.

## Physics, Geology, and Astronomy

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**Habte G. Churnet**, UC Foundation Professor, Department Head, Ph.D., University of Tennessee, Knoxville.  
**Peter Groves**, Lecturer, Ph.D., Wake Forest University.  
**James Gummick**, Lecturer, Ph.D., Notre Dame University.  
**Anne E. Holmes**, Assistant Professor, Ph.D., Columbia University.  
**Tracy Jones**, Assistant Professor, Ph.D., University of Alabama.  
**Eric Trent Lane**, Professor Emeritus, Ph.D., Rice University.  
**Robert Marlowe**, Professor, Ph.D., University of Cincinnati.  
**Jonathan Mies**, UC Foundation Associate Professor, Ph.D., University of North Carolina.  
**Ling-Jun Wang**, Professor, Ph.D., University of Delaware, Newark.

## Adjunct Physics, Geology, and Astronomy

**Lawrence K. Akers**, Ph.D., Vanderbilt University.  
**Harold Climer**, B.S., The University of Tennessee at Chattanooga.  
**Li-Hwa Huang**, M.S., Western Michigan University.

## Political Science/Human Service Management

**Ralph Anderson**, Obea Professor, Ph.D., University of Wisconsin, Milwaukee.  
**Deborah Elwell Arfken**, Professor, Ed.D., University of Tennessee, Knoxville.  
**Stephanie L. Bellar**, Associate Professor, Ph.D., University of Kentucky.  
**David M. Brodsky**, Dalton Roberts Professor, Ph.D., Emory University.  
**David W. Carrithers**, Adolph S. Ochs Professor, Department Head, Ph.D., New York University.  
**J. David Edwards**, UC Foundation Professor, D.P.A., University of Georgia.  
**Marvin L. Ernst**, Professor and Coordinator, Ph.D., Oklahoma State University.  
**John Friedl**, Provost, Professor, Ph.D., University of California-Berkeley, J.D., The University of Michigan Law School.  
**Sharon Hill**, Assistant Professor, Ph.D., University of Texas, Arlington.  
**Fouad Moughrabi**, Professor, Docteur es Science Politique, University of Grenoble.  
**Robert H. Swansbrough**, Professor, Ph.D., University of California, Santa Barbara.  
**Richard Wilson**, Professor, Ph.D., The Johns Hopkins University.

## Adjunct Political Science

**Russell Fowler**, J.D. University of Memphis.  
**John McBride**, Ph.D., University of Virginia.  
**Jacqueline Strong-Moss**, J.D., Northwestern School of Law.

## Psychology

**Michael D. Biderman**, Salem Professor, Ph.D., University of Iowa.  
**Julie Buck**, Lecturer, Ph.D., Florida State University.  
**Melissa Gratiis**, Lecturer, Ph.D., Virginia Polytechnic Institute and State University.  
**Ralph W. Hood Jr.**, Professor, Ph.D., University of Nevada.  
**Daniel LeBreton**, Assistant Professor, M.S., Virginia Polytechnic Institute and State University.  
**Richard L. Metzger**, Professor, Ph.D., University of North Dakota.  
**Ronald J. Morris**, Clinical Assistant Professor, M.S., The University of Tennessee at Chattanooga.  
**Brian O'Leary**, Assistant Professor, Ph.D., Tulane University.  
**L. Lynn Ourth**, Professor, Ph.D., University of Missouri.  
**Irene Nichols Ozbek**, Professor, Ph.D., University of Georgia.  
**David J. Pittenger**, Professor, Acting Associate Provost, Ph.D., The University of Georgia.  
**David Ross**, UC Foundation Professor, Ph.D., Cornell University.  
**Amye Warren**, Obea Professor, Coordinator of Research Program, Ph.D., Georgia Institute of Technology.  
**Paul J. Watson**, UC Foundation Professor, Acting Department Head, Ph.D., University of Texas at Arlington.  
**Bart Weathington**, Assistant Professor, M.A., University of Houston.

## Adjunct Psychology

**Donna Coleman**, M.Ed., The University of Tennessee at Chattanooga.  
**Diane Oakley**, M.S., University of Tennessee, Knoxville.  
**Dorothy Stephens**, M.S., The University of Tennessee at Chattanooga.

## Sociology, Anthropology, and Geography

**Thomas Buchanan**, Assistant Professor, Ph.D., University of Cincinnati.  
**Obi N.I. Ebbe**, Professor, Ph.D., Southern Illinois University at Carbondale.  
**P. K. Geevarghese**, Professor, Ph.D., Ohio State University.  
**Zibin Guo**, UC Foundation Associate Professor, Ph.D., University of Connecticut.  
**Nicholas Honerkamp**, UC Foundation Associate Professor, Acting Department Head, Ph.D., University of Florida.  
**Craig R. Laing**, Assistant Professor, Ph.D., University of Tennessee, Knoxville.  
**Terri L. LeMoyné**, UC Foundation Assistant Professor, Ph.D., University of Maryland.  
**Barbara C. Medley**, Associate Professor, Ph.D., Georgia State University.  
**Lyn W. Miles**, UC Foundation Professor, Ph.D., University of Connecticut.  
**Leland W. Robinson**, Professor, Ph.D., Northwestern University.  
**Alice Tym**, Clinical Instructor, M.A., University of Florida.  
**Shela Van Ness**, Associate Professor, Ph.D., Kent State University.

## Adjunct Sociology, Anthropology, Geography

**Thomas E. Bodkin**, M.A., University of Tennessee, Knoxville.  
**Catherine L.W. Colby**, Ph.D., Vanderbilt University.  
**Robert C. Hoff**, M.A., University of Nebraska.  
**Booker T. Scruggs**, M.A., Atlanta University.  
**William D. Ulmer**, M.A., University of Pittsburgh.  
**Andrew Workinger**, M.A., Vanderbilt University.

## Theatre and Speech

**Fred D. Behringer**, Professor, Ph.D., University of Texas, Austin.  
**John Burgess**, Associate Professor, M.F.A., The University of Arizona.  
**Suzanne B. Carter**, Clinical Instructor, M.M., Cincinnati Conservatory of Music.  
**Robert Duffy**, UC Foundation Professor, Department Head, M.E.A., Trinity University.  
**Karen Henderson**, Clinical Assistant Professor, M.R.E., Southern Theological Seminary.  
**Stacy Ray**, Assistant Professor, M.E.A., American Conservatory Theater.  
**William Mac Smotherman**, UC Foundation Associate Professor, M.E.A., Trinity University.  
**Stephanie Stokes-Eley**, Lecturer, M.S., University of Southern Mississippi.  
**Kim Alan Wheatley**, Professor, Lyndhurst Chair of Excellence in Arts Education, M.A., Schiller College, Berlin.  
**Jillian Klean Zwilling**, Lecturer, M.A., Eastern Illinois University.

## Adjunct Theatre

**Kathryn Briere**, M.F.A., DePaul University.  
**Monica Coulter**, M.F.A., Texas Christian University.  
**Jeanie Hacker**, M.A., Louisiana State University.  
**Rodney Van Valkenberg**, M.F.A., University of North Carolina, Greensboro.  
**Sonia W. Young**, M.Ed., University of Chattanooga.

## University Honors Program

**Aaron Althouse**, Assistant Professor, History, Ph.D., Stanford University.  
**Robert Duffy**, UC Foundation Professor, Department Head, M.E.A., Trinity University.  
**Robert C. Fulton III**, Professor, English, Ph.D., University of California, Berkeley.  
**Ralph W. Hood Jr.**, Professor, Psychology, Ph.D., University of Nevada.  
**Richard P. Jackson**, UC Foundation Professor, English, Ph.D., Yale University.  
**Immaculate N. Kizza**, Associate Professor, English, Ph.D., University of Toledo.  
**Jim G. Lewis**, Associate Professor and Department Head, Theatre and Speech, Ph.D., University of Texas, Austin.  
**Robert Marlowe**, Associate Professor, Physics, Ph.D., University of Cincinnati.  
**Gregory S. O'Dea**, UC Foundation Associate Professor, Program Director, Ph.D., University of North Carolina, Chapel Hill.  
**John Frederick Phillips**, Distinguished Teaching Professor, Classics and Philosophy and Religion, Ph.D., University of Wisconsin, Madison.  
**Richard Rice**, Professor, History, Ph.D., Harvard University.  
**Thomas R. Rybolt**, Grote Professor, Chemistry, Ph.D., Georgia Institute of Technology.  
**William Mac Smotherman**, UC Foundation Associate Professor, M.E.A., Trinity University.  
**Victoria Steinberg**, Assistant Professor, Foreign Languages and Literatures, Ph.D., The Ohio State University.  
**Gavin Townsend**, Associate Professor, Art, Ph.D., University of California, Santa Barbara.  
**James A. Ward III**, Guerry Professor, History, Ph.D., Louisiana State University.  
**Paul Watson**, UC Foundation Professor, Psychology, Ph.D., University of Texas at Arlington.

## College of Business

## Accounting and Finance

**John M. Alvis**, Clark Professor, Ph.D., University of Arkansas.  
**Debbie Archambeault**, Assistant Professor, Ph.D., University of Alabama.  
**Christopher Brockman**, Assistant Professor, Ph.D., University of Alabama.  
**A. Richard Casavant, Jr.**, Stagmaier Professor and Dean, Ph.D., Georgia State University.  
**J. R. Clark**, Probasco Chair, Director Center for Economic Education, Ph.D., Virginia Polytechnic Institute.  
**Linda Pickthorne Fletcher**, MacLellan Professor, Ph.D., The Wharton School, University of Pennsylvania.  
**John G. Fulmer, Jr.**, First Tennessee Professor, Associate Dean, Ph.D., University of Alabama.  
**Thomas A. Gavin**, Decosimo Professor, D.B.A., University of Tennessee, Knoxville.  
**Vance P. Lesseig**, Vieth Assistant Professor, Ph.D., University of Oklahoma.  
**Bento Lobo**, Assistant Professor, Ph.D., University of New Orleans.  
**D. Michael Long**, J. C. Bradford Associate Professor, Ph.D., University of Kentucky.  
**Kathleen G. Long**, Assistant Professor, M.B.A., University of Louisiana at Lafayette.  
**Kaye F. McClung**, Associate Professor, Department Head, D.B.A., Mississippi State University.  
**Melanie G. McCoskey**, Holland Associate Professor, Ph.D., University of Georgia.  
**Sara K. McManus**, Lecturer, M.B.A., The University of Tennessee at Chattanooga.  
**Marsha A. Scheidt**, UC Foundation Associate Professor, D.B.A., Mississippi State University.  
**Joan E. Sompayrac**, Associate Professor, J.D., University of Cincinnati College of Law.  
**Gregory M. Thibadoux**, Professor, Ph.D., University of Houston.  
**Kimberly Turner**, Assistant Professor, M.B.A., The University of Tennessee at Chattanooga.  
**Richard A. Turpin**, UC Foundation Associate Professor, Ph.D., University of Alabama.  
**Marilyn Willis**, Associate Professor, Ed.D., University of Kentucky.

**Adjunct Accounting and Finance**  
**Allison A. Cardwell**, J.D., University of Tennessee, Knoxville.  
**Paul A. Hodes**, M.B.A., University of New York.  
**Michael Owens**, M.B.A., Loyola College.  
**Linda Ragland**, M.A., The University of Tennessee at Chattanooga.

## Management

**Mohammad Ahmadi**, Guerry Professor, Ph.D., North Texas State University.  
**Obasi Akan**, Assistant Professor, Ph.D., Case Western Reserve University.  
**Richard S. Allen**, UC Foundation Associate Professor, Ph.D., University of Pittsburgh.  
**Beni Asllani**, Assistant Professor, Ph.D., University of Nebraska-Lincoln.  
**Gail A. Dawson**, Assistant Professor, Ph.D., University of South Florida.  
**Pathasarathi Dileepan**, UC Foundation Professor, Ph.D., University of Houston.  
**Lawrence P. Ertkin**, White Professor, Department Head, Ph.D., University of Nebraska.  
**Karen Ford-Eickhoff**, Instructor, M.B.A., The University of Tennessee at Chattanooga.  
**Mark E. Mendenhall**, Frierson Chair of Excellence in Business Leadership, Professor, Ph.D., Brigham Young University.  
**Judy C. Nixon**, Hart Professor, Ph.D., Georgia State University.  
**Farhad M. Raiszadeh**, Professor, Ph.D., Louisiana State University.  
**Sue V. Stacy**, Professor, Ph.D., Georgia State University.  
**Margaret Takeda**, Assistant Professor, Ph.D., University of Pittsburgh.  
**Kathleen Wheatley**, Assistant Professor, Ph.D., Syracuse University.  
**Charles Stephen White**, Hart Professor, Ph.D., Arizona State University.  
**Cynthia White**, Instructor, M.B.A., The University of Wyoming.  
**James Wyatt**, Instructor, M.B.A., The University of Tennessee at Chattanooga.

## Marketing and Entrepreneurship

**Richard C. Becherer**, Harris Chair of Excellence in Business and Entrepreneurship, Professor, D.B.A., University of Kentucky.  
**Beverly Brockman**, Assistant Professor, Ph.D., University of Alabama.  
**A. Richard Casavant, Jr.**, John Stagmaier Professor and Dean, Ph.D., Georgia State University.  
**Diane Halstead**, Harris Professor, Ph.D., Michigan State University.  
**Paula J. Haynes**, Nation Professor, D.B.A., Mississippi State University.  
**James A. Henley, Jr.**, UC Foundation Professor, D.B.A., Mississippi State University.

**Michael A. Jones**, Lorberbaum Associate Professor, Ph.D., University of Alabama.  
**Harriet Neely**, Lecturer, M.B.A., University of Tennessee, Knoxville.  
**Samuel Spralls**, Assistant Professor, Ph.D., Texas Tech University.  
**Valerie Taylor**, Assistant Professor, Ph.D., University of South Carolina.

#### Adjunct Management and Marketing

**Robert K. Conrad, Jr.**, M.B.A., The University of Tennessee at Chattanooga.  
**Lisa Flint**, M.B.A., The University of Tennessee at Chattanooga.  
**Sam Goh**, M.B.A., The University of Tennessee at Chattanooga.  
**Richard Gruetzmacher**, Ed.D., University of Southern Mississippi.  
**Luis Leon**, M.B.A., The University of Tennessee at Chattanooga.  
**John Riddle, Jr.**, M.B.A., Pace University.  
**Gregory A. Sedrick**, Ph.D., University of Missouri.  
**Janice Veal**, M.S., The University of Tennessee at Chattanooga.  
**Richard G. Youngblood**, M.B.A., Brenau University.

## College of Engineering and Computer Science

### Computational Engineering

**W. Kyle Anderson**, Professor, Ph.D., Mississippi State University.  
**Abdollah Arabshahi**, Associate Research Professor, Ph.D., Mississippi State University.  
**J. Ronald Bailey**, Guerry Professor and Dean, Ph.D., The University, Southampton, England.  
**W. Roger Briley**, Professor, Ph.D., Mississippi State University.  
**Daniel G. Hyams**, Assistant Research Professor, B.S., Mississippi State University.  
**Steve L. Karman, Jr.**, Research Professor, Ph.D. University of Texas, Arlington.  
**Henry McDonald**, Chair of Excellence in Computational Engineering, Professor, D.Sc.E., University of Glasgow.  
**Robert E. Melnik**, Research Professor, Ph.D., Polytechnic Institute of Brooklyn.  
**D. Stephen Nichols**, Assistant Research Professor, Ph.D., Mississippi State University.  
**Ramesh Pankajakshan**, Associate Research Professor, Ph.D., Mississippi State University.  
**Kidambi Sreenivas**, Associate Research Professor, Ph.D., Mississippi State University.  
**Timothy W. Swafford**, Professor, Ph.D., Mississippi State University.  
**Lafayette K. Taylor**, Research Professor, Ph.D., Mississippi State University.  
**Robert S. Webster**, Assistant Research Professor, Ph.D., Mississippi State University.

### Management, Industrial and Electrical Engineering

**Neslihan Alp**, UC Foundation Assistant Professor, Ph.D., University of Missouri-Rolla.  
**Prem S. Chopra**, Professor, Ph.D., University of Washington.  
**Ronald B. Cox**, Professor, Burkett Miller Chair of Excellence in Management and Technology, Professor, Ph.D., Rice University, PE.  
**Ahmed H. Eltom**, Professor, Ph.D., Clarkson University, PE.  
**Michel E. Holder**, Assistant Professor, Ph.D., Vanderbilt University, PE.  
**Philip Kazemsky**, UC Foundation Professor, Director Pearce Center, Ph.D., Ohio State University, PE.  
**Richard L. Keyser**, Assistant Professor, M.S., University of Tennessee, Knoxville.  
**Claire McCullough**, Associate Professor, Ph.D., University of Tennessee, Knoxville.  
**Edward H. McMahon**, Professor and Acting Director, Ph.D., New York University, PE.  
**Clifford R. Parten**, Associate Professor, Ph.D., Texas Tech University, PE.  
**Virgil A. Thomason**, Professor, Ph.D., University of Tennessee, Knoxville, PE.  
**Cecilia Wigal**, Associate Professor, Ph.D., Northwestern University.

### Mechanical, Chemical, Civil and Environmental Engineering

**James R. Cunningham**, Professor, Ph.D., University of Florida, PE.

**Prakash R. Damshala**, Professor, Ph.D., Georgia Institute of Technology, PE.  
**Edwin P. Foster**, Professor, Ph.D., Vanderbilt University, PE.  
**Ronald U. Goulet**, Associate Professor, Ph.D., University of New Hampshire, PE.  
**James M. Henry**, Professor, Ph.D., Princeton University, PE.  
**James W. Hiestand**, UC Foundation Professor, Ph.D., Cornell University, PE.  
**Ricky Horn**, Instructor, M.S., The University of Tennessee at Chattanooga.  
**Francis Jones**, Associate Professor, Ph.D., Drexel University.  
**Michael H. Jones**, Chattanooga Manufacturers Association Professor and Director, Ph.D., North Carolina State University, PE.  
**Charles V. Knight**, Professor, Ph.D., University of Tennessee, Knoxville, PE.  
**Gary H. McDonald**, UC Foundation Associate Professor, Ph.D., Tennessee Technological University, PE.  
**Joseph Owino**, Associate Professor, Ph.D., Georgia Institute of Technology.

#### Adjunct Engineering Faculty

**Pam Whitt**, B.S.E., The University of Tennessee at Chattanooga.

### Computer Science

**Joseph Dumas**, UC Foundation Associate Professor, Ph.D., University of Central Florida.  
**Dawn, Ellis**, Lecturer, M.S., The University of Tennessee at Chattanooga.  
**William Harris**, Assistant Professor, Ph.D., University of Texas at Arlington.  
**Joseph Kizza**, Professor, Ph.D., University of Nebraska.  
**Andy Novobilski**, Associate Professor, Acting Department Head, Ph.D., University of Texas, Arlington.  
**Clinton Wills Smullen III**, Professor, Ph.D., Dartmouth College.  
**Stephanie A. Smullen**, Professor, Ph.D., University of Arkansas.  
**Jack Thompson**, Professor, Ph.D., Texas A & M University.  
**Kathy Winters**, Lecturer, M.S., The University of Tennessee at Chattanooga.

#### Adjunct Computer Science

**Doug Jacobs**, Ph.D., Nova Southeastern University.  
**Tim Maloney**, M.B.A., University of Tennessee, Knoxville.  
**Michael Ward**, M.S., The University of Tennessee at Chattanooga.

## College of Health, Education and Professional Studies

### Exercise Science, Health, and Leisure Studies

**Nicholas Boer**, Assistant Professor, Ph.D., University of Pittsburgh.  
**Brian Bogdanowicz**, Assistant Professor, M.S., The University of Tennessee at Chattanooga.  
**Marisa Colston**, Assistant Professor, Ph.D., ATC, University of Tennessee, Knoxville.  
**David E. Cundiff**, Professor, Department Head, Ph.D., University of Illinois.  
**Robert Espeseth Jr.**, Clinical Instructor, Coordinator of Rowing, M.B.A., University of Illinois.  
**Gene Ezell**, UTNAA Professor, Ed.D., University of Tennessee, Knoxville.  
**W. Leroy Fanning**, UC Foundation Professor, Ed.D., University of Georgia.  
**Jamie Harvey**, Clinical Instructor, M.A., Eastern Kentucky University.  
**Betty McNulty**, UC Foundation Professor, Ed.D., University of Arkansas.  
**Burch Oglesby**, Assistant Professor, Ph.D., University of Arkansas.  
**Steven A. Underwood**, Associate Professor, D.A., Middle Tennessee State University.  
**Gary Wilkerson**, Associate Professor, Director, GATR, Ph.D., ATC, University of Kentucky.  
**Marianne Wilson**, Instructor, M.S., Middle Tennessee State University.

### Adjunct Exercise Science, Health, & Leisure Studies

**Robert Baudier**, M.S., The University of Tennessee at Chattanooga.  
**John Bilderback**, B.S., The University of Tennessee at Chattanooga.

**Lynette Carlson**, M.S., The University of Tennessee at Chattanooga.  
**Paula Collier**, M.S., University of Wisconsin - LaCrosse.  
**Susan J. Dawn**, M.A., Ball State University.  
**Philip Grymes**, B.S., Ferrum College.  
**Thomas L. Lowry**, B.S., University of Massachusetts at Amherst.  
**Laura Mincy**, A.B.D., University of Tennessee, Knoxville.  
**Kenneth Mitchell**, M.Ed., Bowling Green State University.  
**Denise Murphy**, M.Ed., The University of Tennessee at Chattanooga.  
**James R. Nelson**, M.A., Middle Tennessee State University.  
**Carol S. Oglesby**, B.S., The University of Tennessee at Chattanooga.  
**Patrick Raley Parker**, B.S., The University of Tennessee at Chattanooga.  
**Elisa Rhodes**, M.A., Garner Webb University.  
**Michelle M. Royko**, B.S., University of Wisconsin-Oshkosh.  
**Will Stern**, M.Ed., The University of Tennessee at Chattanooga.  
**Mark Swafford**, B.S., The University of Tennessee at Chattanooga.  
**Suzanne H. Weaver**, M.Ed., The University of Tennessee at Chattanooga.  
**Joe Wiram**, B.S., The University of Tennessee at Chattanooga.

### Graduate Studies Division

**Karen I. Adsit**, Professor and Director, Ed.D., University of Houston.  
**Eugene C. Bartoo**, Rount Professor, Ed.D., State University of New York at Buffalo.  
**Lloyd D. Davis**, Guerry Professor, Ed.D., University of Tennessee, Knoxville.  
**Kristi A. Gibbs**, Lecturer, Ph.D., University of New Orleans.  
**Mark Gillen**, Assistant Professor, Ph.D., University of Arkansas.  
**Pamela Guess**, Assistant Professor, Ph.D., University of Tennessee, Knoxville.  
**George B. Helton**, Professor, Ph.D., University of Texas, Austin.  
**Patricia Kopetz**, Clinical Associate Professor, Ed.D., St. Louis University.  
**Anthony Lease**, Associate Professor, Department Head, Ed.D., Syracuse University.  
**Robin Lee**, Assistant Professor, Ph.D., Mississippi State University.  
**Ted L. Miller**, UC Foundation Professor, Ph.D., Indiana University.  
**Chrystal Partridge**, Associate Professor, Coordinator, Ph.D., University of Michigan, Ann Arbor.  
**Vicki Petzko**, UC Foundation Associate Professor, Ph.D., University of Minnesota.  
**James A. Tucker**, McKee Chair of Excellence in Dyslexia and Associate Learning Exceptionalities, Professor, Ph.D., University of Texas, Austin.

#### Adjunct Graduate Studies Division

**Elizabeth Dodd**, Ed.D., University of Tennessee, Knoxville.  
**Ellen Neufeldt**, Ed.D., University of Tennessee, Knoxville.  
**Melissa Wilson**, M.Ed., The University of Tennessee at Chattanooga.

### Human Ecology and Social Work

**Linda Cundiff**, Associate Professor, Department Head, Ed.D., University of Southern Mississippi.  
**Holly Dieken**, UC Foundation Associate Professor, Ph.D., University of Tennessee, Knoxville.  
**Donna K. Emerson**, Lecturer, M.A., Virginia Polytechnic Institute and State University.  
**Anne Gamble**, Assistant Professor, M.Ed., University of Tennessee at Chattanooga.  
**Anne J. Johnson**, Associate Professor, Ph.D., University of Georgia.  
**Dana Moody**, Assistant Professor, M.S., University of Tennessee, Knoxville.  
**Cheryl Newton**, Lecturer, M.S.W., Washington University.  
**Jane Reager**, Associate Professor, Ph.D., Virginia Technological Institute.  
**Cheryl M. Robinson**, UC Foundation Assistant Professor, Ph.D., University of Tennessee, Knoxville.  
**Melody G. Stone**, Lecturer, Ph.D., University of Tennessee, Knoxville.  
**Mary P. Tanner**, Guerry Professor and Dean, Ph.D., University of Georgia.  
**Michelle Vineyard**, Assistant Professor, Ph.D., University of Tennessee, Knoxville.  
**Dorothy Williams**, Associate Professor, Coordinator, Ph.D., University of Tennessee, Knoxville.

#### Adjunct Human Ecology and Social Work

**Tom Bissonette**, M.S.W., University of Michigan.  
**Stephanie England**, M.S., Georgia State University.  
**Dixie Saeger**, M.S., University of Tennessee, Knoxville.  
**Bonnie Safley**, M.S., The University of Tennessee at Chattanooga.

## Teacher Preparation Academy

**M. Daniel Baker**, Professor, Ed.D., University of Florida.  
**Janetta Bradley**, Assistant Professor, Ph.D., University of Illinois at Urbana-Champaign.  
**Jane Brower**, UC Foundation Assistant Professor, Ed.D., Delta State University.  
**William Butterfield**, Professor Emeritus, Ph.D., Ohio State University.  
**Kay Cowan**, Assistant Professor, Ph.D., Georgia State University.  
**Lucien Ellington**, UC Foundation Professor, Ed.D., University of Mississippi.  
**Dolly Gerragano**, Lecturer, A.B.D., New York University.  
**Linda Johnston**, Assistant Professor, Ed.D., University of Alabama, Tuscaloosa.  
**Deborah A. McAllister**, UC Foundation Professor, Ed.D., University of Kansas at Lawrence.  
**Lelia Mullis**, Lecturer, Ed.D., University of Georgia.  
**Barbara Ray**, UC Foundation Professor, Ed.D., University of Kentucky.  
**Valerie C. Rutledge**, UC Foundation Associate Professor, Acting Department Head, Ed.D., University of Tennessee, Knoxville.  
**Sarah Jo Sandefur**, Assistant Professor, Ph.D., The University of Arizona.  
**Jeanette E. Stepanse**, Associate Professor, Ed.D., University of Tennessee, Knoxville.  
**Caryl A. Taylor**, Associate Professor, Ph.D., University of South Florida.  
**Bonnie Warren-Kring**, Assistant Professor, Ed.D., University of Central Florida.  
**Sandra Watson**, Assistant Professor, Ed.D., Georgia Southern University.  
**Gwen Williams**, Assistant Professor, M.Ed. Alabama State University.  
**Barbara Wofford**, Associate Professor, Director Affirmative Action and ADA, Ed.D., Virginia Polytechnic Institute.

## Adjunct Teacher Preparation Academy

**Mike McIntyre**, Ed.S., The University of Tennessee at Chattanooga.  
**Freida Miller**, M.Ed., The University of Tennessee at Chattanooga.  
**Jimmie Narramore**, M.Ed., The University of Tennessee at Chattanooga.  
**Charles Preston**, M.Ed., University of Tennessee at Chattanooga.  
**Karla Riddle**, M.S., University of Tennessee, Knoxville.  
**Stan Smith**, M.Ed., Loyola College.

## School of Nursing

**Michael S. Arnold**, Assistant Professor, Assistant Anesthesia Coordinator, M.S.N., The University of Tennessee at Chattanooga.  
**Gerry Bosworth**, Assistant Professor, Ph.D., University of Tennessee, Knoxville.  
**Martha A. Butterfield**, Associate Professor Emeritus, M.S., Ohio State University.  
**Anne Ch'ien**, Clinical Associate Professor, M.S.N., University of Tennessee, Memphis.

**Barbara Daicoff**, Assistant Professor, Ph.D., University of Florida.  
**Susan Davidson**, Associate Professor, Ed.D., University of Tennessee, Knoxville.  
**Laura D. Davis**, Assistant Professor, M.S.M., The University of Tennessee at Chattanooga.  
**Cherry A. Guinn**, Associate Professor, Ed.D., University of Georgia.  
**Kelli A. Hand**, Assistant Professor, M.S.N., M.B.A., Samford University.  
**Virginia Keatley**, Mary B. Jackson Assistant Professor, DNSc., Widener University.  
**Katherine Lindgren**, UC Foundation Associate Professor, Acting Director, Ph.D., Medical College of Georgia.  
**Barbara Norwood**, Associate Professor, Ed.D., University of Tennessee, Knoxville.  
**Janet Secrest**, UC Foundation Associate Professor, Ph.D., University of Tennessee, Knoxville.  
**Christine Smith**, Assistant Professor, M.S.N., The University of Tennessee at Chattanooga.  
**Timothy Smith**, Associate Professor and Coordinator, Ph.D., University of Tennessee, Memphis.  
**Margaret L. Trimpey**, Associate Professor, M.S.N., Vanderbilt University.  
**Judith Wakim**, Johnson Professor, Ed.D., Indiana University.  
**Dana Hames Wertenberger**, Professor, Ph.D., University of Southern California.  
**Harriet Wichowski**, Associate Professor, Ph.D., University of Wisconsin.

## Adjunct School of Nursing

**Gloria Deml**, M.Ed., The University of Tennessee at Chattanooga.  
**Hilda Horton**, M.S., Virginia Commonwealth University.  
**Betsy Quinn**, M.A., West Georgia College.  
**Kathy Spada**, M.S.N., University of Texas.  
**Miriam Zwitter**, Ph.D., Case Western Reserve University.

## Occupational Therapy

**Susan McDonald**, Assistant Professor, Acting Department Head, M.A., University of Alabama, Birmingham.

## Adjunct Occupational Therapy

**Charles Hart**, M.Ed., Northeast Louisiana University.  
**Teresa Norris**, M.S.W., O.T.R., Louisiana State University.  
**Vicki Smith**, M.B.A., O.T.R., Gannon University.

## Physical Therapy

**Nancy Fell**, Assistant Professor, Ph.D., University of Tennessee, Knoxville.  
**June Hanks**, UC Foundation Assistant Professor, Ph.D., University of Tennessee, Knoxville.  
**Debbie Ingram**, UC Foundation Associate Professor, Ed.D., University of Tennessee.  
**David Levine**, UC Foundation Professor, Ph.D., University of Tennessee, Knoxville.  
**Catherine R. Smith**, Vanderbilt Assistant Professor, Acting Department Head, Ph.D., University of Tennessee, Knoxville.  
**Larry Tillman**, UC Foundation Professor, Acting Director, Ph.D., University of Mississippi, Oxford.  
**J. Randy Walker**, UC Foundation Associate Professor, Ph.D., Georgia State University.  
**Michael W. Whittle**, Cline Chair of Excellence in Rehabilitation Technology, Professor, Ph.D., University of Surrey, England.

## Adjunct Physical Therapy

**Ann Giffin**, M.S., Duke University.

## Library

**Valarie Adams**, UC Foundation Associate Professor, M.S.L.S., University of Tennessee, Knoxville.  
**Andrea Anderson**, Assistant Professor, M.S., University of Illinois at Urbana - Champaign.  
**W. Michael Bell**, Assistant Professor, M.L.S., George Peabody College for Teachers.  
**Robert Neal Coulter**, Assistant Professor, M.L.S., Indiana University.  
**Steven Cox**, Assistant Professor, M.S.L.S., University of Kentucky.  
**Sheila A. Delacroix**, Professor, M.L.S., University of Alabama.  
**Melanie Dunn**, Assistant Professor, M.L.S., Vanderbilt University.

**Theresa Liedtka**, Associate Professor, Dean, M.S., Georgetown University.  
**Sarla R. Murgai**, Associate Professor, Ed.D., University of Tennessee, Knoxville.  
**William W. Prince**, Associate Professor, M.L.S., University of Illinois, Champaign-Urbana.  
**Marea E. Rankin**, Associate Professor, M.A.(L.S.), University of South Florida.  
**Jon Ritterbush**, Assistant Professor, M.S.L.I.S., University of Illinois, Champaign-Urbana.  
**Christine E. Ryan**, Assistant Professor, M.S.L.S., University of Kentucky.  
**Pricilla Seaman**, Assistant Professor, M.S.L.I.S., University of Tennessee, Knoxville.  
**Naomi Sutherland**, Assistant Professor, M.S.L.I.S., University of Illinois, Champaign-Urbana.

# ENDOWED FUNDS

Through the years, many people have made generous gifts to establish endowed funds for various purposes. The University recognizes and thanks them by publishing their names here.

## Scholarships

See pages 10-18.

## Chairs

*Walter M. Cline Jr. Chair of Excellence in Rehabilitation Technology:*

In cooperation with UTC's College of Health and Human Services and the College of Engineering and Computer Science, the Cline Chair of Excellence is designed to make major contributions to the field of rehabilitation technology and to the education of students interested in pursuing careers related to this discipline. The charge to the holder of the chair, established in 1986-87 with a gift from Mr. Cline's widow and children and matching funds from the UC Foundation, is development of programs, curricula, and research in rehabilitation engineering, physical therapy and rehabilitation nursing.

*Tennessee State Senator Ward Crutchfield Chair in Engineering:*

Established in 2001 by friends, family, and colleagues of Mr. Crutchfield, a native Chattanooga and longtime elected representative in the Tennessee Legislature, to advance the cause of higher education, particularly in the area of engineering. Chair appointee responsibilities include teaching in area of his/her area(s) of expertise in the undergraduate or graduate programs, scholarly research, and public service as understood by the engineering profession.

*J. Burton Frierson Chair of Excellence in Business Leadership:*

Designed to give business majors at UTC exposure to exceptional educational opportunities in business leadership, this chair of excellence was funded by the Dixie Yarns Company and matched by state funds in the 1986-87 academic year in honor of J. Burton Frierson. The holder of the chair, a person of national stature in business, government, or technology, helps the University advance its stated goals of becoming a regional leader in business education.

*Clarence E. Harris Chair of Excellence in Business Administration and Distinguished Lecture Series in Entrepreneurship:*

The first chair of excellence to be funded by an alumnus, this chair provides the students and faculty of the school, as well as the broader community, a better understanding of the world of business. Distinguished lecturers will be brought to the campus each year in order to engage students, faculty and others in discussions related to trends in innovation, entrepreneurship, corporate strategies, and the global economy. Harris, class of 1964, was the president and chairman of the board of Carriage Industries Inc., Calhoun, GA, when the chair was established in 1987.

*Chair of Excellence in Judaic Studies:* Offering a focus for special examination of the impact of Judaic influence on Western civilization and history, this chair was established in 1986 by a special Committee for the Judaic Chair of Excellence and from private community support. Enriching the curriculum of the Department of Philosophy and Religion, the chair is also a major asset to the cultural life of the community and the hold-

er of the chair serves as a key resource for the integration of Judaic studies in appropriate contexts throughout the University and in the community at large.

*Lyndhurst Foundation Chair of Excellence in Arts Education:*

Funded in 1988 as a complement to the Southeast Center for Arts Education established on the UTC campus with grants from the Getty Foundation, the Gherkin Foundation, and Lyndhurst, this chair is designed to bring to the University and the southeast region of Tennessee a nationally recognized expert in discipline-based arts education (DBAE). The chair holder will teach art education courses to undergraduate and graduate students, conduct research, serve as an advocate for improved arts education, and oversee the center's programs, including three constituent institutes for teachers in the visual arts, theatre, and music.

*O.D. McKee Chair of Excellence in Dyslexia:* Established in 1998 in honor of the late O.D. McKee, founder of McKee Foods Corporation, makers of Little Debbie snack cakes. A professorship to provide leadership and direction in the research, teaching, and outreach programs for the study of dyslexia and exceptional instruction. Funded by a \$500,000 endowment from Mr. McKee and an equal matching grant from the State of Tennessee.

*Burkett Miller Chair of Excellence in Management and Technology:*

A cross-disciplinary chair of excellence that bridges the resources between the School of Business Administration and the College of Engineering and Computer Science. Funded in 1977 by the Tonya Memorial Foundation of Chattanooga, the holder of this chair assists the University and the Chattanooga community in understanding the importance of technology; identifying and nurturing the development of technology; and assisting with the transfer of that technology to the marketplace in ways which foster economic development.

*Scott L. Probasco Jr. Chair of Free Enterprise:* Established in 1976 by Burkett Miller, a leading Chattanooga attorney and philanthropist, in honor of a longtime friend, well-respected Chattanooga citizen, and trustee of the University of Tennessee and the UC Foundation, for a distinguished professorship relating to the free enterprise system.

*Provident Life and Accident Insurance Company Chair of Excellence*

*in Applied Mathematics:* This chair of excellence, funded in 1986 by joint gifts from Provident and the University of Chattanooga Foundation, brings to the University and the community a heightened sense of the significance, utility, and relevance of mathematics and its applications. The holder of this chair functions not only as a scholar, teacher, and researcher, but also as a valuable resource and vigorous advocate for mathematics in the schools and community.

*SunTrust Bank Chair of Excellence in the Humanities:*

Established by its predecessor, American National Bank and Trust Company, this chair, administered through the College of Arts and Sciences, has as its purpose presenting the best that has been and is now being thought in the humanities. This revolving appointment brings to the community visiting professors of national and international stature. The humanities chair established by American National Bank and Trust Company in 1986 helps meet UTC's commitment as a cultural center for the region.

*George R. West Jr. Chair of Excellence in Communication and Public*

*Affairs*: Funded by the Westend Foundation in 1986 in honor of its founder, George R. West Jr., this chair of excellence is designed to assist UTC in educating students for responsible and effective communications in the realm of public affairs. Students pursuing careers in business, education, communications, political science, and other disciplines benefit from this chair which emphasizes critical analysis and presenting, particularly by the written word, the issues of public affairs in a truthful, effective and responsible fashion.

## Professorships

*Alumni Distinguished Service Professorships*: Awarded to outstanding faculty members of each of the four campuses of The University of Tennessee by the University of Tennessee National Alumni Association.

*The Rev. Herman H. Battle Professorship*: Created in 1999 in honor of the late Rev. Herman H. Battle, one of Chattanooga's most admired Black citizens who did much to improve community race relations. The professorship is in African-American studies.

*C.C. Bond Minority Professorship in Education*: Established in 1987 by friends and colleagues of Dr. Claude C. Bond, distinguished educator in the Chattanooga public schools. The professorship is intended to attract an outstanding minority leader to the College of Education and Applied Professional Studies at UTC.

*J.C. Bradford Portfolio Management Professorship*: Established in 1996 by the J.C. Bradford & Company Foundation to provide students with guidance in security analysis and portfolio management. The fund provides resources for faculty and student development for the professor who directs the Portfolio Management Seminar in the Department of Accounting and Finance in the School of Business Administration.

*Chattanooga Manufacturer's Association Professorship in Engineering*: Established in 1980 to provide support for the College of Engineering and Computer Science and enable the University to reward a member of the engineering faculty for excellence in teaching, public service, and research.

*Kay Kittrell Chitty Professorship in Nursing*: Established in 1996 by Memorial Hospital in honor of Dr. Chitty, former director of UTC's School of Nursing and former chair of Memorial's board of directors, the appointee holds a joint appointment with the University and the hospital in the area of family nurse practitioner.

*George M. Clark Professorship in Management Policy*: Established in 1983 by the Clark Foundation in memory of George M. Clark, longtime Chattanooga and chairman of Pioneer Bank until his death in 1979.

*George C. Connor Professorship in American Literature*: Named for Guerry Professor of English Emeritus George C. Connor, this professorship was established in 1985 by colleagues, former students, and friends in honor of his 26 years of service.

*Robert M. Davenport Professorship in Biology*: Established in 1997 by the children of Robert M. Davenport: Eleanor Howell Davenport, Adelaide Davenport Bratcher, Robert M. Davenport, Jr., and S. Elliot Davenport, and other friends and colleagues, as a tribute to Davenport, an executive with the Krystal Co. and founder of the Central Park restaurant chain.

Davenport, who died in 1994, was committed to both education and the environment through his understanding of the earth's fragile environment and devotion to property at Lula Lake on Lookout Mountain. The appointee is a faculty member of the Department of Biological and Environmental Sciences.

*Joseph F. Decosimo Centennial Professorship in Accounting*: Established in 1977 by Mr. and Mrs. Joseph F. Decosimo, civic and business leaders, to support the program in accounting and upgraded during the Centennial campaign of 1986.

*W. Max Finley Centennial Professorship in Business Administration*: Established by friends and family of alumnus W. Max Finley, class of 1931, this fund promotes faculty research which involves students.

*First Tennessee Bank Distinguished Professorships in Business*: Established in 1996 as part of a 21st Century Campaign gift to the University of Tennessee by First Tennessee National Corporation of which First Tennessee Bank is a subsidiary, this professorship for the Chattanooga campus is awarded to a member of the faculty with expertise in the various areas of banking and finance.

*Benjamin H. Gross Professorship in Chemistry*: Awarded to a member of the faculty of the Department of Chemistry who has shown outstanding accomplishments in teaching, research, and civic involvement. Established in 1998, the endowment honors Dr. Benjamin Gross, who served as head of the UTC chemistry department from 1964 through 1990. Dr. Gross, a nationally known chemist, was an outstanding professor of general and organic chemistry.

*Nita T. and Irvine W. Grote Professorships in Chemistry*: Established in 1986 to honor outstanding teaching through a generous gift from the estate of Dr. and Mrs. Grote. An inventor of note, Grote taught at UC for 38 years.

*Alexander and Charlotte Patten Guerry Professorships*: Established by anonymous gifts in 1959 and 1961 in memory of the University's esteemed seventh president and in honor of his dedicated wife, to recognize a select group of outstanding professors.

*Henry Hart Professorship in Business Administration*: Established in 1978 by R. Henry Hart, a civic and business leader, to provide faculty support for the University's School of Business Administration.

*Marilyn Helms Professorship in Business Administration*: Awarded to a member of the faculty of the College of Business Administration who has shown outstanding accomplishments in teaching, research and public service. Established in 1998, the endowment honors Dr. Marilyn Helms, who served as a professor of management from 1987 through 2000. Dr. Helms coordinated a wide range of programs in the areas of entrepreneurship, international business, family businesses and women in business.

*Brice L. Holland Centennial Professorship in Taxation*: Established in 1989 by Brice L. Holland, distinguished alumnus, benefactor and community leader, desiring to enhance the teaching and level of expertise offered in the field of taxation in the School of Business Administration.

*Ruth Kiser Hyder Endowed Professorship of Educational Leadership*:

- Established in 1985 by Dr. Charles Hyder, Guerry Professor Emeritus of Education, in honor of his wife, a distinguished teacher in the elementary schools of Chattanooga. This professorship recognizes leadership in the preparation of teachers in the public school system grades K-12.
- Mary B. Jackson Professorship of Nursing:* Established in 1989 to support and maintain a high caliber nursing faculty by friends and colleagues of Mrs. Jackson, who came to UTC in 1973 and was charged with organizing the nursing program.
- H. Clay Evans Johnson Professor of Nursing:* Established in 1989 to emphasize the training of talent and upholding the ethical standards of nursing by Johnson, former chair of the Board of the UC Foundation. He served as president of the Hamilton County Memorial Hospital Association.
- Summerfield Key Johnston Centennial Scholars Endowment for Junior Faculty Development:* Established in 1987 as a Centennial gift by local Coca-Cola executive Summerfield Johnston Jr., this endowment provides support for new faculty members in the School of Business Administration who have demonstrated potential for making substantial contributions to teaching and research.
- Kennedy Distinguished Teaching Professorship in English Literature:* Established in 1995 by The Kennedy Foundation for an outstanding professor who teaches English literature and is involved in scholarly research and public service.
- Alan S. Lorberbaum Professorship in Marketing:* Established in 1978 by Alan S. Lorberbaum, a business leader and carpet executive in Dalton, GA, to provide faculty support for the marketing program in the School of Business Administration.
- Robert L. Maclellan Centennial Professorship in Insurance:* Robert L. Maclellan, Provident Life and Accident Insurance Company insurance executive and UC Foundation trustee, was a major benefactor of the University. This professorship was established in 1986 by his widow to provide expertise and support for the Chattanooga insurance industry by teaching the principles and practices of insurance.
- LeRoy A. Martin Distinguished Professorship of Religious Studies:* Supported by the UC Foundation in memory of the last ordained Methodist minister to serve as president of UC, 1959-66, and John H. Race Professor of Classics until his death in 1971. This professorship was established to ensure ties with the University's Methodist heritage.
- Luther Masingill Professorship in Communication:* Established in 1990 by friends and associates of the local celebrity in honor of his 50 years in broadcasting. The professorship is designed to emphasize the training of talent and to uphold the high standards of communication set by Masingill.
- Frank McDonald Professorship in Communication or Management:* Established in 1998 with ongoing gifts in honor of long-time Chattanooga Free Press President Frank McDonald by friends. The professorship goes either to a faculty member in the University communication or management departments.
- George Lester Nation Centennial Professorship of Entrepreneurship:* Established in 1986 by his son Ray Nation, this professorship honors the late founder of Nation Hosiery Mills. Both in the classroom and the community, the holder of the professorship is charged with emphasizing entrepreneurship and economic development.
- Patricia Draper Obear Distinguished Teaching Professorship:* Established with memorial gifts given by friends and family in honor of the wife of the 13th chief executive officer of UTC, Chancellor Frederick W. Obear. Mrs. Obear, who died in 1993, was a community volunteer who had a particular interest in social service and early childhood education, the areas given preference in the awarding of this professorship.
- Adolph S. Ochs Centennial Chair of Government:* Established in 1925 by Ochs, owner and publisher of The Chattanooga Times and The New York Times, friend of the University, father and grandfather of trustees. It was upgraded to a Centennial title in 1986 by members of the family.
- Katharine Pryor Professorship of English:* Established in 1991 by Rodney L. Grandy and other friends and former students in honor of Katharine Pryor, a long-time teacher of English and assistant principal at Chattanooga High School, and a 1936 graduate of the University of Chattanooga.
- Dalton Roberts Professorship in Public Administration:* Established by friends and colleagues in 1995 to honor former Hamilton County Executive Dalton Roberts for his contributions to public service, this award goes to faculty members whose major field of study and teaching is public administration. Roberts held the position of county executive from the time it was established in 1978 until his retirement in 1994.
- Mildred Routt Outstanding Teaching Professorship:* Established in 1993 through a bequest from the educator for whom it is named to recognize professors who represent the qualities and high standards of good teaching both at the University and in the community. Recommendations for the award are made by the provost and approved by the chancellor.
- Salem Carpets Professorship in Industrial/Organizational Psychology:* Established in 1989 by Salem Carpets Inc., for a faculty member in psychology with half the endowment earnings to provide a stipend and half to support research in the field.
- John Stagmaier Chair of Economics and Business Administration:* Established in 1956 by the Tennessee Paper Mills in memory of its founder, respected and admired citizen of Chattanooga and University trustee from 1932 until his death in 1944.
- UC Foundation Professorships:* Established in 1976 to recognize outstanding younger faculty and to provide an incentive for their continuing to teach at UTC.
- Sharon Vanderbilt Professorship in Physical Therapy:* Established in 1995 by Douglas L. Vanderbilt, M.D. in honor of his wife Sharon Vanderbilt, a pediatric physical therapist who was an advocate for the development of the UTC Physical Therapy Program, for an outstanding professor who teaches physical therapy and is involved in scholarly research and public service.
- Arthur G. Vieth Professorship in Business Finance:* Established in 1983 by former students and friends in memory of the former holder of the John Stagmaier Chair of Economics and Business Administration, a greatly admired teacher and public-minded citizen.
- Marvin Edward White Professorship in Business Administration:* Established in 1978 by Selox, Inc. to provide faculty support for the University's program in business administration and to honor the company's founder.
- Robert Lake Wilson Professorship:* Established in 1987 by a former



student in honor of geology professor Dr. Robert Lake Wilson for demonstrating a personal interest in the welfare of his students. It is intended to recognize and reward faculty who go out of their way to provide encouragement and support.

## Student Loan Funds

*William E. and Mary F. Ansbach Memorial Student Loan Fund:* Established in 1968 by Raymond J. Ansbach, Chattanooga merchant, in memory of his parents.

*Dr. H. Eugene Hames Student Loan Fund:* Established in 1969 with a gift from the Hartsell, Ala., physician who studied his premedicine at UC from 1954-1956 and received his M.D. from UT in 1960.

*Lewis B. Headrick Memorial Student Loan Fund:* Established in 1966 by family, friends, and colleagues of Headrick, class of 1926, research physicist with the Radio Corporation of America for 34 years.

*Ethel Chapin Morgan Student Loan Fund:* Established by a bequest from the UC alumna, B.S. degree in 1925, at the time of her death in 1973 for students in chemistry or history.

*Frank L. Underwood Memorial Student Loan Fund:* Established in 1967 with a bequest from Mrs. Underwood in memory of her husband, vice-president of Chattanooga's Hamilton National Bank and UC trustee until his death in 1942.

## Additional Funds

*Jane and Lawrence Akers Physics Endowment:* Established in 2000 by Dr. Lawrence Akers and his wife Jane to provide program funds and scholarships for physics majors. Dr. Akers has taught in the Department of Physics and Astronomy since 1986 after a long and distinguished career at Oak Ridge Associated Universities, serving in Vienna, Austria, and Washington, D.C. He earned his Ph.D. from Vanderbilt University.

*Alpha/Ann Tinnon Memorial Award:* Established in 1997 as a permanent endowment by the Alpha Society, UTC's highest scholastic honor society, in honor of its former president, the late Ann Tinnon, who was the director of financial aid. The award is based on a vote of the membership to a graduating senior based on the strength of his or her undergraduate degree program and prospective graduate program.

*Harold Cadek Music Fund:* Established in 1979 to provide financial assistance to enable Chattanooga young people to take private music lessons at the Cadek Conservatory of Music.

*Dr. North Callahan Honors Essay Prize:* Established in 1984 by Professor Emeritus of History, New York University, author, and UTC Distinguished Alumnus. Prize awarded to a UTC student for the best honors essay, as determined by an honors committee, based on UTC library research.

*Challenger Learning and Teaching Center Endowment Fund:* Established in 1993 to provide program support for the Challenger Center, one of a national network of learning centers that encourage young people in math, science and team building through simulated space missions.

*Morrow Chamberlain Memorial Library Fund:* Established in 1971 by a bequest from Mrs. Chamberlain in memory of her husband, Chattanooga business and civic leader, chairman of the UC Board of Trustees from 1932 to 1958, member from 1919 until his death in 1959.

*Bess Taylor Cofer Endowed Professional Health Care Student*

*Advocacy Fund:* Established in 1985 by Dr. Robert H. and Mary A. Cofer, this fund is used to promote the highest level of guidance and preparation to students pursuing careers in nursing, dentistry, medicine, cytotechnology, dental hygiene, medical technology, pharmacy, physical therapy, or veterinary medicine.

*George Connor Society:* Established in 2003 to honor the late Guerry Professor of English and department head who joined the faculty in 1959 and served the University for 26 years. The fund is for an annual colloquium featuring prominent authors. Mr. Connor grew up in Red Bank and received his A.B. degree from the University of Chattanooga in 1947.

*George Ayers Cress Gallery of Art Endowment Fund:* Established in 1992 by friends, former students, and colleagues in honor of George Cress, artist-in-residence and Guerry Professor who taught at UTC for 50 years, on the occasion of the naming of the University gallery in the Fine Arts Center for Cress. The funds are to help defray the cost of operating and staffing the gallery and in support of its exhibitions.

*Paul W. Curtis Jr. Awards:* Endowed in 1948 for outstanding students in engineering by Mr. and Mrs. Paul W. Curtis in memory of their son, class of 1933, who died in WW II.

*Excellence in Engineering Fund:* Established in 1979 to support the UTC College of Engineering and Computer Science.

*Stanton J. Fjeld Fund:* Established in memory of Dr. Stanton J. Fjeld, a faculty member in the University's departments of psychology and criminal justice. The fund provides for program enhancement.

*Elizabeth E. Fleming Fund:* Enabled by a gift from the estate of Mrs. Fleming to be used in the field of fine arts as determined by University of Chattanooga Foundation Trustees. Established in 2001 in memory of the late Dr. Alex and Charlotte Guerry.

*Irvine W. Grote Fund for the Department of Chemistry:* Established in 1976 by a bequest from the estate of Dr. Irvine W. Grote, Guerry professor of chemistry, to be used for the benefit of the chemistry department.

*Hartung Fund for Nursing Education:* Established in 1969 by Dr. and Mrs. Carl A. Hartung, UC graduates of 1929 and 1931 respectively, to support the nursing program.

*John B. Haskins Jr. Memorial Laboratory:* Science laboratory equipped and its upkeep endowed in 1948 by gifts from Dr. John B. Haskins in memory of his son, a UC student who died in 1944 after a long illness.

*Marjorie Fox Higdon Chemistry Fund:* Endowed fund created by Marjorie Fox Higdon to provide book stipends to chemistry majors as recommended by the head of the Chemistry Department and approved by the Dean of the College of Arts and Sciences. Established in 2001.

*Hinds Memorial Book Fund:* Established in 1921 by Mrs. Kate Hinds Steele and Mrs. Bashie Martin in memory of their father, J.I.D. Hinds, for the purchase of chemistry books.

*Martha Chase and Andrew David Holt Library Endowment Fund:* Established in 1970 by the Hamilton County chapter of the UTNAA and other friends in honor of the retiring UT president and his wife, for the purchase of library books.

*Mary B. Jackson Award Endowment:* Established in 1977, with endowment funded in 1984, to honor outstanding senior nursing student selected by peers.

*Dr. Joseph A. Jackson Endowment for Library Faculty Development:* Established in 1988, by Mary B. and Joseph A. Jackson in the

- name of Dr. Jackson, professor and dean of libraries, to encourage, promote, and recognize achievement in library faculty of the T. Cartter and Margaret Rawlings Lupton Library.
- John W. Jayne Memorial Mathematics Award:* Established in 1994 by family and colleagues in memory of Dr. John W. Jayne, member of the Department of Mathematics for 22 years who died in 1993. The award is given each year to an outstanding mathematics student.
- H. Clay Evans Johnson Nursing Endowment Fund:* Established in 1992 by H. Clay Evans Johnson, past chair of the University of Chattanooga Foundation, also past chair and member of the UT Development Council. A retired insurance executive and community leader, Johnson also established, in 1990, the H. Clay Evans Johnson Professorship in Nursing. The income from the endowment provides funds for student awards for academic achievement, clinical excellence and /or community service. It also helps fund the clinical renewal program for nursing faculty.
- Summerfield Johnston Endowment for the Restoration of the American Chestnut:* Established in 1997 by Summerfield K. Johnston Jr. in honor of his father and to provide income to the holder of the Robert M. Davenport Professorship of Biology for research, teaching, scholarship, and service which supports the objective of restoring the American chestnut tree to successful survival in its natural state.
- Keese Lecture Series:* Established in 1962, endowed in 1964 by Will S. Keese Jr., in memory of his mother, Lucy Beall Keese, who died in 1959, and in honor of his father, the late William S. Keese, longtime directors of the Bonny Oaks School, to bring an outstanding speaker to the campus each year.
- Gene H. Kistler Golf Endowment:* Established in 1994 through an estate gift by the late Dr. Kistler, a Chattanooga physician and general surgeon and a golf enthusiast who competed avidly for more than 70 years after learning the game when he was 16. The fund is intended to support the men's intercollegiate golf program.
- Lukens/Hatch Awards Endowment:* Established in 1994 by Dr. Terrance Carney, UTC professor of engineering, and his wife Marian, alumna of the Class of 1977, in honor of their respective parents, Dr. Frances D.W. Lukens, Mrs. Carney's father, and Harriet Hatch Carney, Carney's mother. The Lukens Award is given to the rising junior in the College of Engineering and Computer Science with the highest grade point average. The Hatch Award goes to the adult part-time student in the School of Business Administration with at least 60 hours who has the highest grade point average.
- O.D. McKee Center for Dyslexic Studies Endowment:* Established in 1994 by Ellsworth McKee, president of McKee Foods Inc., in honor of his father, to provide educational opportunities to dyslexic students enrolled in the College Access Program.
- Ellis K. Meacham Annual Writers Workshop and Creative Writing Professorship:* Established in 1985 by Jean Austin Meacham, former UTC professor and dean in honor of her husband, Judge Ellis K. Meacham, a distinguished jurist, author and UC alumnus. The income from the endowment provides a stipend each year for the faculty member responsible for that year's Meacham Writers Workshop.
- T. Cartter and Margaret Rawlings Lupton Library Endowment Fund:* Established with an anonymous gift, this fund provides for the continued acquisition of materials to enhance the holdings of the library.
- Captain Daphne Marjorie Painter Memorial Art Education Endowment Fund:* Endowed in 1984 by Mrs. Marjorie Stanford Painter in memory of her daughter to send teachers from under-served Southeast school districts to the Southeast Institute for Education in the Visual Arts at UTC.
- Zeboim C. Patten Fund:* Established by the Patten estate for the unrestricted endowment and set aside in 1999 as a separate endowment. Patten was the father of Dorothy Patten.
- Cranston B. Pearce Center for Applied Engineering and Technology:* Complementing UTC's Center of Excellence for Computer Applications, the Pearce Center in the College of Engineering and Computer Science was funded by the Tonya Foundation in 1984 in memory of its president. The purpose of the center is to move the University to the forefront of instruction, research, and service in the area of computer and information sciences. The center also plays a role in the economic development of Chattanooga and the Southeastern region.
- Physics and Astronomy Endowment Fund:* Established in 1986, the fund provides research and program enhancement funds for the Department of Physics, Geology and Astronomy.
- Seth C. Smith Management Award:* Established in 1975 by the Society for the Advancement of Management in memory of its distinguished business leader, awarded annually to an outstanding student majoring in management.
- Southeast Center for Education in the Arts Endowment Fund:* Established in 1993 to provide program enhancement funds for the center's efforts in discipline-based arts education.
- J. Gilbert Stein Fellowship Endowment Fund:* Established in 1997 by J. Gilbert Stein to provide graduate assistantships in support of the Scott L. Probasco Chair of Free Enterprise. A businessman, Stein served as an adjunct scholar with the Probasco Chair for over 16 years. The student receiving this honor will hold the title of "J. Gilbert Stein Fellow."
- SunTrust Bank Chair of Excellence in Humanities Program Support Endowment:* Established in 1997 by SunTrust as its 21st Century Campaign gift to the University. Proceeds provide program support to the holder of the SunTrust Bank Chair of Excellence in Humanities.
- Carl A. Swafford Jr. Endowment Fund:* Endowed in 1984 by Carl A. Swafford Sr. in honor of his son for the purchase of equipment and supplies for biology and chemistry.
- Terrell Louise Tatum Memorial Fund:* Established in 1968 by the University in memory of the Guerry professor of Spanish who served her alma mater for 43 years, for the purchase of books and teaching materials for the modern languages.
- Terrell Louise Tatum Spanish Award:* Endowed in 1964 by an anonymous donor to honor the Guerry professor of Spanish, to the outstanding senior Spanish major.
- Tennessee Tomorrow Projects Fund:* This fund was established with private gifts received for various projects at UTC during the UT System's Tennessee Tomorrow Campaign, launched in 1977.
- Edgar B. Tolson Memorial Book Fund:* Established in 1942 from Tolson's estate, authorized by Wilfred O. Stout Sr., executor, for the purchase of history and philosophy books.
- UTC Children's Center Scholarship:* Established in 1988 by a group of donors including the late Patricia Obear to provide tuition

assistance for the UTC Children's Center to parents who demonstrate financial need.

*James G. Ware Mathematics Education Award:* Established in 1994 by Dr. James G. Ware, faculty member of the Department of Mathematics for 30 years, 22 of which were as head of the department, upon the occasion of his retirement. The award goes to the outstanding student planning to teach mathematics at the high school level.

*Dr. Marjorie Watson Mathematics Fund:* Established in 2001 by Dr. Marjorie Watson for program support to the Mathematics Department as recommended by the Provost and approved by the Chancellor.

*William H. Wheeler Center for Odor Research:* The center is a cross-disciplinary laboratory established by a gift from the Wheeler estate. The center supports the study of the objective relationships between various substances and their effect upon olfaction.

*Earl W. Winger Broadcast Center:* Established in 1987 by the children of Earl W. Winger, a distinguished businessman, civic

leader, lifetime trustee of the UC Foundation, and broadcast pioneer, for the renovation and acquisition of broadcast production equipment for WUTC. The children include Robert Allan Winger, Charles E. Winger, Betty V. Hunt, and Virginia A. McAllester.

*Witt-Bagley Fund:* Established in 1988 by University of Chattanooga alumnus and University of Chattanooga Foundation past chair Raymond Witt and his wife, Florence Bagley Witt, the fund supports the annual Perspectives Series and other programs. The series brings to the campus nationally recognized speakers to address various issues.

For more information about establishing an endowment or supporting an existing one, please contact the UTC Office of Development at (423) 425-4232.

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